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GLEANINGS A JOURNAL DEVOTED TO BEES AND HONEY AND HOME INTERESTS. **BEE CULTURE** ILLUSTRATED SEMI-MONTHLY Published by THE A. ROOT CO. \$1.00 PER YEAR MEDINA, OHIO

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STRAY STRAWS FROM DR. C. C. MILLER.

DANDELIONS have kept right along blooming till the middle of June. Stop before Christmas, I s'pose.

SWEET CLOVER showed first bloom June 6. Every thing seems in a hurry this year. Linden started to bloom June 12.

NEVER SAW clover bloom more abundant, but up to the middle of June bees need overcoats to work in. Too cool and cloudy. I'm hoping for hot weather.

I DIDN'T KNOW crimson clover would continue in bloom so long. Some that was sown more than a year ago is not quite out of bloom the middle of June.

ONLY 24 colonies out of 149 have started no queen-cells up to the middle of June, with the future to hear from. Of those that started no queen-cells, most were among the weaker; but a few were among the strongest. They had, however, 16 combs each.

C. DAVENPORT, page 456, challenges any T-super filler in the world—beat him two to one with the section-holder. Now, C. D., please give us something relative, not absolute. Say just how many seconds it takes you to fill 240 sections in section-holders ready to put on the hive.

SWEET-CLOVER HONEY is very distinct in flavor. I've been eating it daily for some time, and can speak with some authority. Some like it, some don't. But I think it improves on acquaintance. You can recognize it by the smell. It smells like sweet-clover seed; just a little muddy in appearance.

THOSE DADANTS are wizards. They give their bees plenty of room, and only three to five colonies out of a hundred swarms. I give my bees more room than the Dadants, and they swarm right along—swarm with 16 frames and some of them empty combs. Is it "locality"?

[When we give our bees plenty of room it seems to work as the Dadants say. See editorials.—Ed.]

I'LL HOLD UP both hands for any organization, new or old, that promises benefit to beekeepers. I'm not set on amalgamation, but I like to see people reasonable; and when they object to a thing I like to see them give their reasons; and the first reasonable reason against amalgamation remains yet to be given.

HOT WATER may be an excellent thing to take, but for those unaccustomed to it it's a pretty hard dose. Lately I've been taking off the raw edge with a spoonful of honey. It goes down easier, and I doubt whether the honey does any harm. Honey is a different thing from sugar. [The honey will do no harm in your case; but for some others it would open the gates wide for more honey and more sweet of every kind.—Ed.]

I'VE DENIED being a contractionist, but I am not sure I can continue the denial. This year my colonies had 16 frames in two stories, and on giving supers I contracted most of them to 8 frames. I believe it was a good thing to give them lots of room before harvest. One colony had 14 frames well filled with brood. Whether it is best to come down to 8 frames at harvest I don't know. [I wish you did know, for that is just what I'd like to know.—Ed.]

THE OTHER DAY I left some old black combs out in the rain. When I shook the water out of them it was almost black as ink. If water dissolves the color out of the combs, why won't honey do it in a less degree? I suspect you'll get lighter extracted honey if you keep a set of extracting combs that have never been bred in. [Yes, I believe it is generally understood that old black combs darken the honey somewhat.—Ed.]

THE COGGSHALL BEE-BRUSH is a grand thing for a standby. You can brush the last bee off a comb without injuring a queen-cell if you lightly use the tip of the brush. Of course, you can smash with it any queen-cell if you apply the brush flat against the comb. [You are

right, for I have just been trying it. It was devised by a practical man; and in the way of a bee-brush it beats any thing I ever saw.—Ed.]

SAY, ERNEST, are you crazy too? On page 452 you say, "You may advocate an International Bee-keepers' Union, but you can't make bee-keepers on this side of the line accept it." This in the face of the fact that the Union has been international from the start, and never any thing else. Too bad to have you lose your mind. And I thought such a lot of you. [See answer to another straw on this subject.—Ed.]

I'M NOT FOOL ENOUGH to mix in that Skylark-Gates fight, page 453; but if I were in Gates' place I'd tell Skylark that deep combs are not the main advantage of box hives, but that box hives are warmer for winter, because not cooled off with a circulating current of air around the frames. And I'd tell him that, by hiving big swarms in little hives with no old comb, I can get whiter sections than he dare get over old black combs.

TIN RABBETS are good, but one thing about them is bad. Bees don't like to put bee-glue on tin as well as on wood, so a line of bee-glue projects all around above the tin against which the end of the top-bar goes; and when you go to lift out a frame this line of bee-glue stops the end of the top-bar, then you pull and it comes up with a jerk, and that makes the bees mad, and sometimes you're fool enough to get mad too. Perhaps the remedy may be in having the tin come up flush with the surface of the wood.—[The remedy is warmer weather; then there will be no snap or jerk.—Ed.]

I'M BIASED sometimes, Ernest, but not the way you thought on page 466. I'm not biased in favor of cellar wintering, but stick to it just because I daren't leave it. I can't get rid of the notion that a colony wintered in the free air is tougher than one shut up in a cellar. I'd hate to stay in a cellar five months myself; and if I live to be an old man I hope to learn some way by which I can winter out—I mean the bees, not myself. I just envy you fellows who can winter out. [You can't get "rid of the notion," for there is something substantial to hold it. I have a notion to insure the safe wintering of ten of your colonies right out in your bee-yard—the same put in our chaff hives, and packed as we do it here. If you don't find those bees a little more "frisky" than your indoor bees when brought out in the spring I shall be surprised. By the way, you had better, while you are about it, get George E. Hilton to insure another ten in his hives, in that same yard of yours.—Ed.]

I DON'T KNOW, Mr. Editor, whether you realize it; but on page 452 you are striking out a new path, for I think you are the first man to suggest changing the Union so as to make it what is needed. Certainly I think no one has

before hinted at changing it from international to national. They've just howled against touching it for fear of making international what has *always* been international. Now, if you can make the Union all that's needed I'm with you. I'll go a step farther than you, and say, let the North American sleep the sleep of the—well, let it sleep. [While we may not agree whether the Union is at present national or not we are a unit in believing that the new organization should be so. So far, so good. Whether I am striking out on a new path matters not so far as I am concerned; but it appears to me that the course suggested is the simplest, and at the same time the most feasible. I should like an expression from our readers, particularly of members of the Union.—Ed.]



LOW PRICES ON HONEY AND OTHER PRODUCTS;
A REPLY TO MR. DOOLITTLE'S ARTICLE
IN THE "PROGRESSIVE."

G. M. Doolittle, in *Progressive*, has "opened fire all along the line" on Skylark. Ostensibly it is directed at "Observer;" but its real objective point is the utter annihilation of Skylark. Listen to friend Doolittle a moment:

On page 108 of the *Progressive Bee-keeper* for April 1, under "Rose Hill Notes," I find Observer indorsing what Skylark said in March 15th GLEANINGS, where said Skylark styles the larger part of our apiarists as lunatics because they are of a communicative turn of mind, and impart knowledge regarding the ways of successful apiculture to others. I do not suppose that friend Leahy knew the full import of what Observer was saying when he allowed that note to go in, for I can not believe that he desires all who read the articles written by myself and others to be maltreated; as an indorsement of Skylark is to indorse such a sentence as this: "Discourage by every means in your power every *would-be* bee-keeper, even if you have to floor him with a skillet."

Since I threw my flag to the breeze with that last quotation inscribed on its ample folds, many bee-keepers have come out and boldly advocated the same doctrine, although they did not advise such general destruction of skilllets. Whether it was from a scarcity of the article in their locality, or a fear that some fellow would get a corner on them, I can not tell; but they are virtually with me all the same; and bee-keepers will, in large numbers (notwithstanding their insanity in the Skylark sense), become convinced that I am right. I can not see how I "maltreated" friend Doolittle or any other teacher of apiculture. If he feels hurt because I specifically confined him to skilllets I am sorry for it, and I withdraw the limits at once. Skilllets, gridirons, rolling-pins, or flat-irons—in fact, any thing he can get his hand on quick, that is harder than an amateur's head, will do. This will relieve friend Doolittle

little's fears that there would be a corner on skillets. Not overproduction, eh? Let us see. Suppose friend Doolittle could just supply his own home market in Borodino, N. Y., at as good prices as he got 25 years ago. He has the whole market to himself, and is getting rich. But he has the bee-fever, and with it the bosom friend that is always by its side—the mania for teaching others. Well, he raises up three competitors who produce, each, as much as he does for the home market. Any one of them can supply it. Is there no overproduction in Borodino? So it is with counties, States, and the whole United States.

□ Friend Doolittle makes the astounding assertion that the number of farms in the United States remains about the same as it was in 1870; and, therefore, if overproduction of honey causes the low price, there "must be an overproduction of farms," which has caused a shrinkage of 50 to 60 per cent in the price of land. This would be good sound reasoning if the premises were founded on facts; but they are not. Since 1870, more than three million farms have been opened up for cultivation in the United States, besides many millions of acres cleared and brought into cultivation on farms that were in existence in 1870. This would aggregate enough land to make several great States; so I sweep this argument into the Pacific, as it has no grounds to stand on. If the other statistics given by friend Doolittle have no better foundation they are worthless indeed.

He does not take kindly to bee-keepers uniting for their own protection, because it is "not in accord with the greatest good to the greatest number, more properly expressed in loving your neighbor as yourself." Now, if I understand this at all it means that the union of bee-keepers would raise the price of honey, and that would not be the greatest good to the greatest number, and it would not be "loving your neighbor as yourself."

□ Now, this leads to the legitimate conclusion that friend Doolittle should divide his honey equally among his neighbors, giving each one as much as he keeps himself. If it doesn't mean this, I give it up.

I hope I honor and venerate the religion of Christ, as taught in the New Testament, as sincerely as friend Doolittle; but in no place do I find it the duty of a merchant, though he be a Christian, to take his neighbor into his counting-room, show him his books, and prove to him that he had made \$10,000 the preceding year, and advise him to go into the same business next door to him. If it is his duty to start Jones on one side of him, he is equally bound to advise Thompson to start on the other, and so on indefinitely until he stuffs the town full of them. This is exactly what bee-keepers are doing.

Some writers come out and say it is not overproduction, but "underconsumption." They are the same thing. □ Overproduction means that more honey is produced than is consumed. Underconsumption means that less honey is consumed than is produced—a distinction without a difference.

□ There are five causes apparent to me for the low price of honey:

□ 1. The stoppage of the wheels of industry, and the consequent inability of the poor man to buy any luxury.

2. The glutting of the large city markets, which rule the prices.

3. The perfect helplessness of large producers, who are entirely at the mercy of the commission men.

4. The entire lack of union or combination among bee-keepers.

5. Adulteration, that has disgusted people with honey, or, rather, with the foul imitation.

Four of these causes of low prices can all be removed by union among bee-keepers—a national union and exchange. Let it be broad in its scope of defense and protection to bee-keepers. Let defense and protection mean from any thing that will injure a bee-keeper's interests in his calling. Make it representative, with annual or semi-annual meetings, the commercial or exchange part of it to be run by a board of directors and a manager. Organize unions or exchanges in each State, on the same plan, to be subordinate to the national, and send representatives thereto. Each State exchange should prosecute adulterators and protect bee-keepers within its own borders, the national union standing ready to help any State exchange in case of any extraordinary outlay, such as carrying a case up to the Supreme Court of the United States. Each State should distribute its own honey throughout its own borders, and send its surplus wherever the national might direct. This plan would preserve the social character of the meetings, protect bee-keepers from all wrong, kill adulteration, distribute the honey properly over the country, and give large producers as good a chance to sell as small ones.

First for the State exchange. Dr. Miller, can't you start the ball in Illinois? Two more besides our California exchange will be enough to start a national at Chicago, for sale of honey, and general management. Wake up! Once more I sound the tocsin of alarm—wake up! for the hour of your deliverance is at hand.

CHICAGO AGAIN OPENED UP.

I am happy to announce to my California readers that the market of Chicago is once more opened up to them. Through my intercession and pathetic pleadings I have "melted" Dr. Miller's stone-bound heart, and he has generously given us the half of Chicago. He doesn't say whether it is only for this year

(while we have no honey) or whether it is permanently ours. You will have to keep wide awake, my friends, for that doctor is a sharper—sharper than you are. He may take back Chicago from you at any time.

"SASSING" EDITORS.

Yes, and that Dr. Miller has commenced to "sass" the editor of the *American Bee Journal*, page 332—and that, too, in his own paper. He even attempts to criticise the editor's language! If an editor can't say just what he pleases, in his own paper, I should like to know what rights he has left. Bro. York, stop his paper and settle him.

NEW CONVERTS.

"Old Subscriber," on page 329, *A. B. J.*, says, "Nary new subscriber will I send for a bee-paper." Now, as Old Subscriber thinks he is sailing under my flag I must tell him he is much mistaken. It is not the bee-papers that make the new converts; it is the everlasting mania of bee-keepers themselves for teaching their neighbors that works their own ruin. For every new convert made by the bee-papers, the bee-keepers themselves make a thousand. If a man picks up a bee-paper and happens to strike one of the Skylark articles he reads it with a hungry heart, and weeps when it is done—that there is no more; but if he runs against "T tins," "Hoffman Frames," or "Large vs. Small Hives," he throws down the book in disgust. It is too dry for him. No, no, Old Subscriber, it is not the bee-papers that are to blame; it is you and I, and all of us, that do the converting. Then the fellow wants a bee-paper. Let him have it. A bee-keeper up to the times is much better than a donkey that will ruin the market.



THE ELWOOD DEQUEENING METHOD

FOR THE PREVENTION OF SWARMING; SOME OF THE DIFFICULTIES, AND HOW OVERCOME.

By T. H. Kloer.

During the spring of 1888 Mr. P. H. Elwood presented, for the first time, to the readers of *GLEANINGS*, the method practiced by himself and Mr. Hetherington, of producing comb honey with colonies of bees which were made queenless, and left in that state for some time. As I had rented a farm for that summer, I hailed with a great deal of satisfaction a plan which promised to do away with the annoyance of voluntary swarming. I studied Elwood's article thoroughly. I had about 100 colonies of bees, and moved them all to the farm. I felt somewhat reluctant about trying the new method; but when swarming began, and the same old trouble of several swarms issuing at

the same time, with the incident clustering together in the same place, had worked me up to the requisite pitch of excitement, I determined to make short shrift of the whole business, and dequeen every colony that had not yet swarmed. This I did forthwith.

Your older readers are, I think, mostly conversant with the Elwood method. For the benefit of the more recent beginners I will detail the procedure.

About the time when the colonies become so crowded with bees and honey that there is danger of their getting the swarming fever, and, preferably, before that troublesome disorder has actually begun to make them dissatisfied, the apiarist hunts up the queen in each hive; he takes one or two combs, with some hatching brood, and adhering bees enough to make a small nucleus, and hangs them in a nucleus hive, which stands near the colony, and the queen is placed on these combs, to be kept in the nucleus until she is needed again. Nine days after this operation, the dequeened hive is carefully gone over and every queen-cell removed from the combs. The colony is now *hopelessly queenless*—that is, there remains, at this time, only sealed brood in the hive, from which it is impossible for the bees to raise a queen. In this hopeless state the bees are left for a week or ten days, when the old queen is reintroduced into the hive.

During the 9 days succeeding the removal of the queen, and while the construction of queen-cells goes on, there is no noticeable slacking-up in the work of the bees. They seem to work on, so far as I can see, about as contentedly as if they had their queen among them. But after the destruction of the queen-cells there is a noticeable let-up in the energies of the bees. After the queen has been reintroduced into the hive, and she has been accepted, and has commenced to lay, the bees begin to work with much more energy and vim. There being plenty of empty cells in the combs, the queen can exercise her laying powers to the fullest extent, and all desire to swarm is for the time being expunged. If some honey has accumulated in the cells, from which young bees have emerged, it will be removed by the workers into the sections, to give room to the queen. As the full strength of the colony, excepting the bees taken for the nucleus, has been held together, and even constantly augmented by the hatching brood, the colony is in good condition to store honey. The season of comparative sluggishness during the hopeless period is, under natural swarming, often equaled by the sulkiness of the bees, which sometimes seem to be unable to make up their mind as to whether they want to swarm or not, during which time of indisposition they do no work.

This is an exposition of the method which bears Mr. Elwood's name, as nearly as I can

remember, without looking up his original article, and I think I can indorse all the claims he makes for it. However, during the beginning of my practice of it I met a number of difficulties which I had not anticipated. I have often wondered whether I am the only one who has ever attempted to follow Mr. Elwood; for I do not remember ever having read any report of any one having practiced this method on an extensive scale. I should have liked to know whether those who did or do practice it had the same difficulties to overcome that befell me. It has also seemed to me, frequently, that Mr. Elwood omitted to say many things which he should have mentioned, and which would have saved me many a disappointment, and, perhaps, a good many dollars. Or is it possible that his bees act so differently from mine?

The first thing I found out was, that it is necessary to close the entrance of the nucleus hive at the time the queen and her companion workers are placed into it, and leave it closed at least until dark of the first day, or else there is much danger of the queen leaving it, and getting lost, or returning to the hive she was just taken from. The first summer I left all the entrances open, and I found several queens marching around on the ground, followed by a few bees. How they left, whether by swarming out of the bees, and the queen following them, or whether the queen herself became so excited and disgusted with her new quarters and small company that she left of her own accord I can not say, as I never caught them in the act. There were always some bees, the young ones, left in the nucleus; and what old field-bees are put into the nucleus will naturally go back to the hive any way. After I found several queens on the ground (remember, they were all clipped), I examined all the nuclei I had made, up to that time, and found a few more gone. In several instances I found them in the old hive, where they had been well received. In others they were lost. Thereafter I always closed the entrance with a plug made of wire cloth, which is withdrawn the evening of the first day. By next morning the occupants of the nucleus will be sufficiently cooled down to stay. The nuclei should be well shaded, and not made too strong, or there will be danger of smothering.

I have never found any difficulty in destroying all the queen-cells. This is best done on the eighth or ninth day. If done before the eighth day there is some danger of there still being some unsealed larvæ in the hive, from which the bees will raise a little scrub of a worthless queen, which is apt to give trouble. On the ninth day all larvæ are sealed, and the bees will be hopeless if all queen-cells are taken out. I have occasionally had to defer the operation to the tenth day; but then you may ex-

pect to find one young queen emerged from her cell, and a number of others ready to do so, even if there were no queen-cells started at the time of dequeening. If there are queen-cells started at the time the queen is removed they should be destroyed, else there is no telling how soon they may not have a queen. Now, as to the way in which I proceed so as to make it a sure thing and get *every* cell:

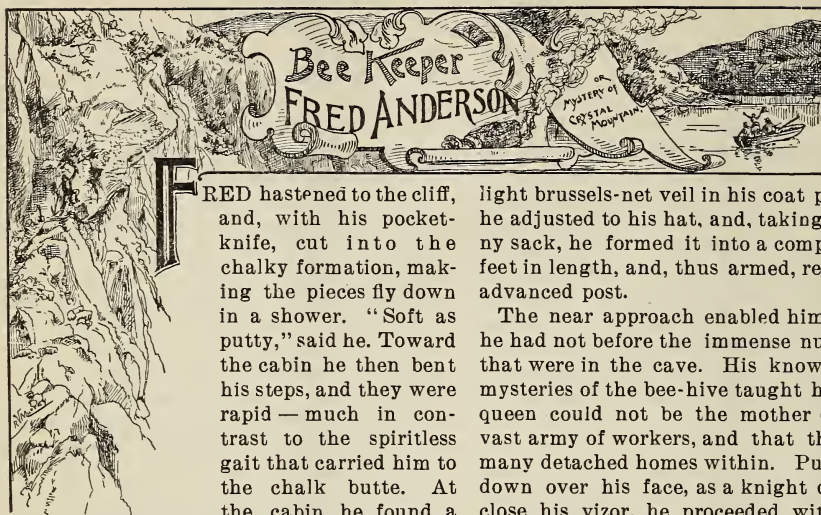
I carry along an empty hive, into which I put all the combs and adhering bees. From this I take the combs one by one, shake most of the bees in front of their hive, and then the eye has a clear sweep of the almost naked comb, and I can pick off every queen-cell without fail—at least, I have never had one escape me in six years' practice. There will be some occasional cells, hardly larger than a drone-cell, but the shape is sufficiently different to betray them. There will be cells stuck away on the sides of the combs next to the end-bars; but the practiced eye will detect them. After each comb has been picked clean of queen-cells it is replaced into the hive, the bees going in at the entrance. I am confident it would be useless to try to get all the cells, with the bees thickly covering the combs, and I surmise that is the way those proceed who report having difficulty in this matter. If only one cell escapes, there will not be any swarming unless it be on the fifth or sixth day after the birth of the young queen, when she leaves the hive to mate. Of this, and of the reason for it, I shall speak later. If more than one cell escapes there is sure to be swarming when you are not expecting it. Hence the importance of making a clean sweep.

The greatest difficulty, and one which nearly knocked me out, lies in the reintroduction of the laying queens, after the colony has been in the hopeless state for a week or ten days, as advised by Mr. Elwood. This subject I shall have to leave for my next article.

Terre Haute, Ind.

[Of late we have not heard very much about the dequeening method as practiced by Mr. Elwood and Capt. Hetherington. Some have tried it, and have given it up as a failure. Some have reported success, but stated they believed they could get more honey by letting their bees swarm. One of our neighbors, Mr. U. Prince, has, if I am correct, practiced the method with much satisfaction for two or three seasons, especially for his outyards, where he can not be present to look for swarms, nor afford to have a man constantly in attendance to catch them when they do come forth. I have always believed myself there was a good deal in the method; and the fact that the two largest apiarists in the world make a success of it year after year is good reason why others on a smaller scale should not condemn it too hastily.—Ed.]

If you would like to have any of your friends see a specimen copy of Gleanings, make known the request on a postal, with the address or addresses, and we will, with pleasure, send them.



FRED hastened to the cliff, and, with his pocket-knife, cut into the chalky formation, making the pieces fly down in a shower. "Soft as putty," said he. Toward the cabin he then bent his steps, and they were rapid—much in contrast to the spiritless gait that carried him to the chalk butte. At the cabin he found a mattock and a spade, and was soon back to the cliff again with his tools.

Fred was one of those young men who believe there is a Providence and a guiding hand in all the affairs of life; and if he had been momentarily discouraged it was because he failed to grasp the reason why he had been sent upon this apparent fool's errand. Now he had some faint idea as to why he had been sent here, and at the same time recognized that the plans of the infinite Mind are so great and far-reaching that his own mind could grasp only the little point within the circle of the present day or hour.

"I will serve to-day," said he, "and be happy, and then see what the morrow will bring forth; or, as Alfaretta has it, 'To the night winds let me hark, and hear what they say to me;'" and while divesting himself of coat and vest he found himself singing Alfaretta's well-worn song.

"Now," said Fred, again to himself, "in order to reach those bees I must cut a narrow niche along the face of the cliff; and it seems to me that it will not be a very big job, for it is about as 'slantindicular' as Deacon Jones' gothic roof back in Cornville."

In his strong hands the mattock hacked out a goodly chunk of chalk at every blow. At first his progress was quite rapid, for he merely cut out stepping-places; but after getting to a point above deep water he cut a continuous path, narrow, but ample for safety. After two hours' steady chipping he came so near to the entrance of the cave that the bees began to show signs of aggressiveness; and after receiving a sting he knew the scent of the poison emitted by the heroic bee would attract a score of others; so he wisely withdrew along his narrow path.

Fred, like all traveling bee-keepers, had a

light brussels-net veil in his coat pocket. This he adjusted to his hat, and, taking an old gunny sack, he formed it into a compact roll two feet in length, and, thus armed, returned to his advanced post.

The near approach enabled him to realize as he had not before the immense number of bees that were in the cave. His knowledge of the mysteries of the bee-hive taught him that one queen could not be the mother of all of that vast army of workers, and that there must be many detached homes within. Pulling his veil down over his face, as a knight of old would close his vizor, he proceeded with his work. When within a few feet of the entrance of the cave he began to enlarge his path into a wider causeway; and upon a still closer approach a match was applied to the frayed end of his gunny-sack roll, and, under cover of the smoke that rolled up from it, he pushed his path close up to the opening.

Fred was a true bee-keeper, and, under the excitement of the moment, he had forgotten all about his recent troubles and perplexities. Even the fair and mad Alfaretta was forgotten. But what is that? a shout. The hum of the bees was so loud as to nearly drown all other sounds; but there was surely a shout, and then another. Turning his eyes down toward the river below he saw Mr. Buell and wife, and Alfaretta, returning from the day's outing, the latter shouting with mad excitement, and waving a red shawl. Mr. Buell was also evidently interested, and tried to shout some intelligible words to Fred; but the latter, with his head near that vortex of bees, could hear about as well as could a person who is attending a thrashing-machine. He so tried to explain to them, and waved them off with his smoking wand. Seeing the uselessness of the effort, Mr. Buell and family floated on down the river. The red shawl kept waving until the boat was out of sight.

With mixed thoughts of waving signals, dark hair, brown eyes, fair features, humming bees, veils, and smoke, Fred peered into the cave. "Just as I expected," he shouted with enthusiasm. From the opening, three feet in width, the cave enlarged to fully fifteen feet, and of circular form, and fashioned as though, at some remote period, the water had circled around and around here, wearing out not only the main portion of the cave but numerous pockets of varying size, in the sides. These were occupied now by many colonies of bees,

the combs showing plainly in the large openings; and in several that were separated by only a small space, the combs seemed to merge together in front. The average newspaper correspondent would certainly write up the occupants as one vast swarm of bees, and call upon his imagination for tons of honey; but Fred estimated that there were twenty-five separate colonies. He then set to work to dig through the wall nearest to his path and into the rear of one of those pockets containing bees and honey. In due time he had the satisfaction of opening up the most unique bee-hive he ever manipulated. Securing a large piece of chalk he roughly fashioned it into the semblance of a plate. Now driving the bees back with smoke, and with his jack-knife in hand, he removed a nice comb of honey containing several pounds, placing it carefully upon the plate. The broken walls of the bees' home were repaired temporarily with a few pieces of chalk, and Fred considered his day's work done.

The sun was disappearing beyond the Coast Range, and, gathering up his utensils and plate of honey, he left the scene of his afternoon labors and approached the cabin. The men were busy cooking their evening meal, and did not notice Fred's approach. When he drew near the house he hid his plate of honey under a box, intending to surprise the men when they were ready to eat.

Upon Fred's appearance, Matt Hogan, who was preparing a kettle of beans, commenced his good-natured badinage by shouting, "Is it yerself, Misther Anderson? and how is yer apy? Will ye's market yer crop in Sacramento or San Francisco? Och! a taste of yer honey wud not be amiss to meself, Misther Anderson."

□ Fred felt quite lively after his afternoon's success, and, indulging the men's vein of humor at his expense, joked with them about his bees and honey.

This being his first experience in a California bachelor's quarters he became interested in their cooking operations. Mr. Ghering had his mind upon some meat that was boiling in a little round-bottomed kettle upon the stove. Matt Hogan had finished preparing his beans, and, in adjusting his kettle, the meat-kettle received a push that revolved it in the griddle-hole, and the water all poured upon the stove-hearth and floor.

"Begorra!" said Matt; "but the top of that stove is too shmall intirely. The kettles won't agraas, Misther Ghering."

"Yes, Matt, they will work if you haff care," said Ghering.

The kettles were adjusted, and more water poured over the meat. The top of the stove was well occupied, for the other ranchmen had each a kettle on the stove—one with prunes boiling, and the other preparing a kettle of mush. The mush man found a little trouble and disappointment when he salted his boiling mess. It foamed nearly to the top of the kettle.

"Well, now, what haff you put into that mush?" said Ghering.

"Blessed if I know," said the man, "if it weren't salt."

"Salt! let mesee; that's soda, man. Ha, ha! you spoilt that mess of pudding, and you'll haff to try again. Remember, salt is in the tin with yellow label—soda in the red tin."



"HIS HEART YEARNED AGAIN FOR THE RETURN OF REASON."

About this time there was a strong odor of burning beans.

"Hey, there, Matt," said boss Ghering; "your beans are burning."

Matt sprang forward, overturning the box he was sitting upon, exclaiming, "Arrah, there, now; ye's don't say so;" and he snatched off the cover. "Howly St. Patrick! I covered them banes with a flood of wather, and they have shwelled and shwelled until the wather is all inside them. Me banes! me beautiful banes!" then off came the kettle, hitting the meat-kettle, which turned politely and spilled

the water again on the stove-hearth and floor. "Mother of St. Patrick! but, Misther Ghering, ye's will have to ballast that kettle of yours at the bottom instead of at the top. It's a moity tippy thing, so it bees. But, Misther Ghering, about me beautiful banes, know, I know, will I have to throw them away, sure?"

"No," said boss Ghering, "there are only a few burned on the bottom; get them out and try again."

Matt followed directions, and soon returned with the beans, with a good supply of water upon them. "Now, Misther Ghering," said he, "ballast that kettle of yours while I navigate me beautiful pot o' banes."

After some minor tribulations supper was placed upon the table, mostly mush and milk, bread, and cold meat, for the boiling viands were in preparation for the next day. When all hands gathered around the table, Matt said, "Now, Misther Anderson, if we only had some of your beautiful honey, in the absence of boother, it would swaten our mouths for the bread and mush to follow. Never, since I kissed me Biddy Malooney good-by in the ould country, have I experienced any swateness. Couldn't ye's now, Misther Anderson, have pity upon me forlorn condition, and change the bitterness of me loife into swateness wid yer honey?"

Fred's only answer was an apparent fit of coughing; and, stepping outside the circle of light, he hastened to the box where he had concealed the honey, secured it, and soon placed it upon the center of the table before the astonished men, exclaiming, "There, Matt Hogan, if your Biddy Malooney is the sweetest girl in old Ireland, this will remind you of her, for it is the sweetest of California honey."

"By the two eyes of St. Patrick!" said Matt; "Misther Ghering, does ye's think me bees awake or adraming? If me bees awake, then, Misther Fred Anderson, ye are a jaynyus. I will give you thanks fur yer compliments to me swateheart, and I'll niver chaff ye's further about yer bees or yer honey; so help me, swate Biddy Malooney."

The conversation for the next hour in the little cabin was all about the bees in the chalk cave, and Fred gave a general lecture upon how to manage bees. These men had never heard that bees could be removed from trees and rocks, and put into hives, and then managed for profit. It was a new revelation to them, and they were deeply interested—the more so, perhaps, because they had the substantial evidence before them in the delicious honey of which they all had eagerly partaken.

Instead of a crack-brained fellow looking for the little honey-bee, the men now looked upon Fred as a "jaynyus," as Matt Hogan expressed it, and there was no more joking upon bees and honey, at his expense.

"And now, Mr. Ghering, and gentlemen," said Fred, "I will tell you my plans in relation to these bees. I have learned there is an old deserted bee-ranch down the river. If I could purchase that cabin and the empty hives I would have a neat apiary on the bluff in a short time. Do any of you gentlemen know if there is an owner of those things, or where I could find out any thing about them?"

"All I know about the place," said Ghering, "is that a Scotchman, Donald McBurger, ownet the bees. Apout a year later after he had solt his honeys I learned that he was drowned. There was some talk of foul play, and old Jim Dawson, on the opposite site of the rifer, came unter some share of suspicion; but as our rifer population is all the time shifting, and no one knew much of McBurger or where he came from, little notice was taken of his disappearance, and he would have been forgotten by this time but for the remains of his bee-boxes. I would advise you to see Dawson; he could probably tell you if there was any owner to the properdy."

"Owner to the property!" said Matt; "mind ye's now. Ould Dawson will be making a claim on it if ye's go to him. Be gorry, I'd go right down and take the baa-traps, and ask lave of nobody. When ye's get the baas in the boxes, Misther Fred, ould Dawson or the devil himself wouldn't be afther taking them away from ye's."

"But suppose an owner turned up," said Fred; "then you see I'd be in a dilemma. I should feel a great deal better in possessing a clear title; then I should not be afraid of sheriffs coming down upon me for another man's property. Don't you see, Matt?"

"Oh! yes, Misther Fred. I see it's only a matter of faaling, and I don't faal for constables or baas as much as I do for the honey or me swate Biddy Malooney. Arrah, bys, it's tin o'clock. Let's adjourn the baa-meeting and turn into our bunks. I'll have baas buzzing in me head all night."

Mr. Ghering owned a sort of catamaran, or flatboat; and the next forenoon, Fred, after some delay in repairing it, floated down the river upon his new enterprise. Desiring to obtain all information possible about the property in question he ran his boat up to Buell's landing. Securing his craft he hastened up the winding path to the house. Upon his approach he heard the well-known voice of Alfaretta singing her favorite song. Stepping through the shrubbery he found her sitting beside a rose-bush and weaving the great flowers into a wreath. Fred thought she formed the loveliest picture that eyes ever gazed upon. She was a fitting companion to the delicately tinted roses around her. His heart yearned again for the return of reason into that shapely head. Attracted by the crush of twigs and parting

bushes, Alfaretta sprang to her feet and gave Fred an effusive greeting, placing the wreath over his shoulder, and dancing around him in an ecstasy of joy. The fragrance of roses and the antics of crazy loveliness were almost overwhelming to Fred, and he was pleased to see Mr. Buell approach.

"Ha, ha! papa, our Fred has returned from heaven. I am rejoicing."

"There, Alfaretta, dear, be quiet," said Mr. Buell; "we all are pleased to see Mr. Anderson." Then addressing Fred he told him that, when Alfaretta saw him upon the side of the cliff among the bees, she became greatly excited, and imagined that he was securing the bees' wings with which to fly away, angel like, to heaven. Such are the vagaries that have possession of her brain. But lunch is ready, Mr. Anderson. You must eat with us, and tell us about your bees;" and Mr. Buell led the way to the house.

Fred again found himself a lecturer upon the management of the busy bee, and his small audience were attentive listeners.

"There, Sarah," said Mr. Buell to his wife; "see how we may study all our lives, and then find in one of our every-day surroundings wonders about which we know so little. Mr. Anderson, you must fit me out with a colony of bees. I wish to study the habits of the little insect."

Mr. Buell could give Fred but little information in relation to the deserted ranch; but he told him to see Mr. Dawson; "and in any transaction you have with him," said he, "you must get it down in writing, for he is a reputed hard character."

With these kindly precautions, with his fragrant wreath of roses, and a waving farewell from Alfaretta, Fred floated on down the river to a new experience with old Dawson.



FOUNDATION STICKING TO SECTIONS.

CRIMSON CLOVER; BASSWOOD; SUMAC; GOOD PROSPECTS IN SOUTHEASTERN OHIO.

By J. A. Golden.

B. Taylor's experience in putting in foundation with the heated plate, page 418, surely does not correspond with that of the mass of bee-keepers; at least, it does not with mine, as I use

my "walk-over machine," which is about the same as the Daisy. Having over 500 full-sheeted sections left over from last year, not half a dozen sections were found to have foundation loosened by the freezing; and it is impossible to remove either full sheets or starters from the sections without tearing them to pieces. We use a plate quite hot, as the editor suggests in a footnote. I have put full sheets in sections with the walk-over machine; and after the melted wax has set I have tossed them across the room and burst open the section, and have never yet loosened the foundation from the section.

Last September I sowed a small plot of ground fronting the main street of our village. The soil was fairly good, of course, and the clover came up and was green all winter, and was very attractive to every passer-by. A large board was nailed to a stake, and occupied a place in the center of the plot, with this inscription in large letters printed thereon: "Crimson clover, sown Sept. 15, 1895. One of the best fertilizers known." About the 1st of May the clover had grown from two to three feet high, and people came from quite a distance to see it; and during April I had presented a great many with a little bunch to carry home and set out in their gardens. About the 12th of May the crimson blossoms began to appear; then soon the plot was a grand sight to look upon, right in the center of our beautiful village, and was visited by scores of people who plucked a fragrant blossom; yes, and many were afraid to pluck a blossom for fear of getting stung; for it seemed as if a swarm of bees had clustered on the plot during its blooming. However, we fear its time of blooming is too short for bee-keepers to tie to as a honey-plant alone; however, many farmers say they will sow this season, and we will now encourage the growing of alsike, believing it will be a more permanent source both of hay and nectar.

The long drouth last year killed out about all the white clover in this locality; but during this most favorable season we see it is making its appearance, and doubtless next year there will be an old-time white-clover honey-flow.

Basswood and sumac will be in full bloom by the 15th of June. Bees are quite busy storing surplus; and while other bees are swarming, mine seem to be non-swarmers, and seem to get there in surplus, at this time of writing.

Reinersville, O., June 6.

[Friend G., I am delighted to know that crimson clover has succeeded in Ohio when sown as late as Sept. 15, even though it was on only a small patch of good ground. Our people at the experiment station have made a complete failure of crimson clover; and the reports in our agricultural papers are, so many of them, of failures, that a good many think it will never be practicable. So far as I know, however, where it has been sown with buckwheat it has been a success. You get a crop of honey and a crop of buckwheat in the fall, and you get a crop of honey and a crop of clover

or clover seed, as you choose, in the spring. A great many have succeeded, also, where the seed was sown in standing corn. A little shade, especially if the weather is dry and hot, seems to be a benefit to the clover in starting; and after it gets rooted it makes its growth after the frost has killed the protecting crop or where it has been otherwise removed. I know its time of blooming is short; but if I am correct it comes in at a time when bees get little or nothing from any other source. Perhaps I should mention that it has also been recently brought out by several of our agricultural papers that common red clover sown with buckwheat or in standing corn will also make a stand and winter over; but it is not ready to cut or plow under as early as the crimson. Inasmuch as the winter just past was one of the most severe, especially during the spring months of March and April, I have great faith that crimson clover has come to stay.—A, I. R.]

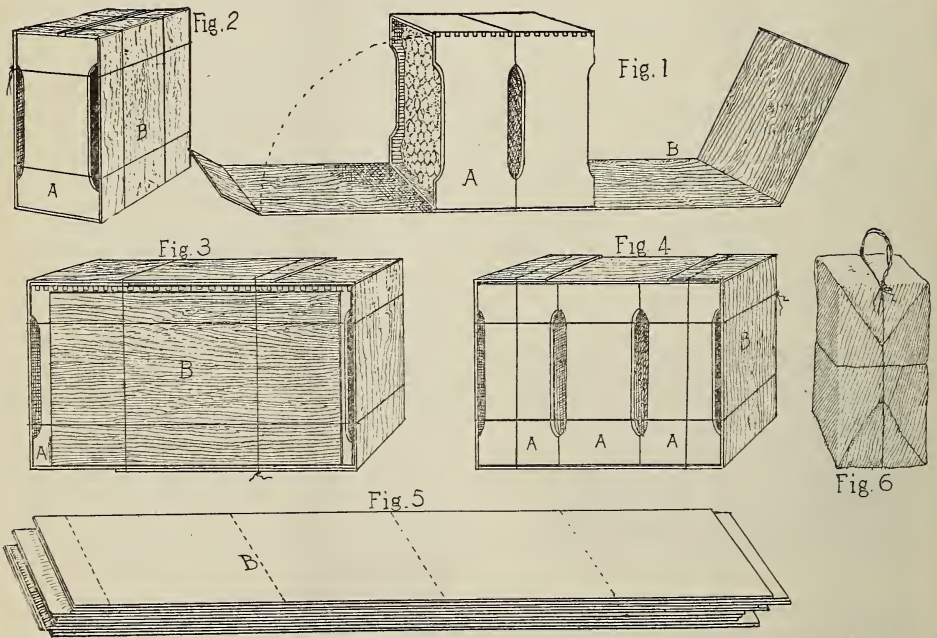
COMB HONEY IN PACKAGES.

A CHEAP AND EFFECTIVE WAY OF DOING IT FOR RETAILING.

By N. T. Phelps.

Perhaps there are some producers of comb honey who desire a better way to put it up in small packages for retail than they now use. If the plan that I will try to make plain will

is; lay it down on its side in the buggy seat, or push it into an overcoat pocket, and then sit down on it. They come for it afoot or on horseback, in wagons or on bicycles, put it down between their feet or anywhere they can push it in. All of these things make the careful producer's "back hair" pull. There seems to be a need for a good, cheap, and substantial way to put up small quantities to preserve it from being broken until the purchaser can get it to his home. The plan that the writer has used for the last ten years may not be the best or cheapest ever suggested, but it may be convenient for some where the material can be got with little trouble and expense. I think almost any basket-shop will sell the material very cheaply if you will order it at a time when they are the least crowded with other work, say in the winter or early spring. What I use is called "basket-splints" at the shops. The size I use is about 17 inches long, $4\frac{1}{4}$ inches wide, and $\frac{1}{2}$ inch thick, made from basswood timber. These I score across with the point of a knife so they will bend at the scored places and not break off. To score the splints in the right place I use blocks of thin lumber cut the right size to score where I want them scored.



PHELPS' BASKET-SPLINT COMB-HONEY PACKAGE.

help them to do so I shall be pleased. It is a most patience-trying thing to see a customer handle a section of nice comb honey like a brickbat—punch his fingers into both sides of it after you have handled it with the utmost care. Many will do that—pinch it to see how hard it

These blocks I lay on the splints and score along each edge of the blocks with the point of a knife. The number of sections sold is set out and then the splints are scored just right for that number of sections. Then the splints are wrapped around the sections and tied with

twine; then a paper is wrapped around the package and again tied with twine. This makes a good solid package, and the customer can not easily stick his fingers into the honey until it is untied.

Sometimes when I have a little leisure I tie up a number of these packages so a customer does not have to wait for it to be done, and you are not hindered much when you are in a hurry. By putting up packages containing one, two, three, four, five, and six sections each, you will be able, by combining these, to give the customer the exact amount he may want. You can put it up in packages containing an exact amount, as 25-cent, 50-cent, or dollar packages, or almost any other amount, as the sections will vary a little in weight, and you can select the ones that will make it come about even for the price you may need. I sell the most 50-cent and dollar packages.

As you can make this much plainer to the reader than I can, by a cut or two, I have sent sample packages just as I put them up. To be of the most value, a thing of this kind should be just exactly as described. So I have sent you samples just as I put them up, using the same method and material, even to the paper and twine, without any selecting whatever.

You will notice that some of the packages have a convenient handle or bail to carry them by. These are for the "foot-folks" and those on bicycles, or those who go on the train and wish to take a package to a friend. This bail is made by cutting the twine long enough to weave back and forward a few times. It pays to make it easy and convenient for a customer to handle these packages. The customer gets his honey home without breaking the cappings or having any "mess" about it, and is much more likely to want more.

I put up other combinations; but these I send are enough to illustrate the method, and each can make combinations to suit his own case. Sometimes if the sections are not well fastened in, or the customer wishes to carry it a long distance, I cut these "splints" off and make a separator between each section. Some may say this is too much trouble—let the customer take care of it after it is sold to him. I have found it to pay me to be to all this trouble.

Kingsville, Ohio.

[This cheap comb-honey packet I consider as one of the best that has been devised by any one; and I told our artist to spare no pains in showing it up so plainly that any one could catch the plan at a glance.

To Bro. Phelps we owe a vote of thanks for the excellent hints and suggestions he has given. He is one of our bee-keeping friends who is of an inventive turn of mind, and one who in years gone by has given us a number of practical hints. I refer particularly to the Phelps frame-spacer, as illustrated recently and some time ago.—Ed.]

THE NON-SWARMING HIVE.

CAN SWARMING BE PREVENTED BY RAISING NO DRONES?

By W. K. Morrison.

This article is for the veterans only: others will please look on. The average bee-man looks on a non-swarming hive as a madman's dream; but the veteran, looking back over the achievements of time, will look with some degree of anxiety to see if the long-looked-for has come at last. My belief is that the thing is within our grasp—almost here. Watt built his engine on Black's "Theory of Latent Heat;" Columbus discovered the New World on the theory that the earth is round; Maxwell's theory of electricity is at the bottom of all the electrical science of the present day; so it becomes me to have a theory too. The theory is simply this: "No swarming without drones." Now, this does not mean that one or two drones may be permitted. Mr. Doolittle says, "Raise a few drones." My dictum is, "Raise none—not one." Now, this is not so difficult as at first seems to most of your readers. The present spacing of frames or combs from center to center is $1\frac{1}{2}$ inches. This has been decided on chiefly because it is Nature's spacing. But what do we wish to copy Nature for? Our entire system of bee culture is the most unnatural thing out. People who wish to follow Nature's way had better let their bees go wild. The great sign of swarming is seeing drones about the hive, either hatched or in the cell state.

Can we stop—in fact, absolutely prevent—the building of drone-cells, and so put it beyond the power of bees to swarm at all? for I conceive that it would be impossible to make bees swarm unless drones were in the hive, in some condition. They seem to say to themselves, "No chance for the young queens to mate, unless drones are in the hive." Mind, too, they do not know that other hives may have drones—they only know what is in *their* hive.

All the spacing of combs in a natural hive proceeds on the idea that room may be needed to make drone comb whenever the bees are so minded. Do we need to follow this rule? Certainly not. The British bee-keepers follow $1\frac{1}{4}$ -inch spacing for brood comb—many do this, I believe, and find it profitable. This does not absolutely prevent the building of drone comb, although it does to some extent. The best authorities say a brood comb is $\frac{3}{8}$ inch, and in actual practice it certainly is not more than this, as we shall see presently. I have spaced to some extent as close as $1\frac{1}{8}$, and yet the bees suffered no inconvenience—not the slightest; and by making the width of the frame $\frac{3}{8}$, one can see that the comb is even a little less than $\frac{3}{8}$, and the bees have room to move up and down, back to back, at $1\frac{1}{8}$ inches, center to cen-

ter. This spacing insures beautiful combs, flat as a board—nothing but worker comb.

Yet there still lingers the possibility that drones can be raised around the bottom of the comb, or even in a corner. The only way to prevent absolutely a single drone-cell coming would be to adopt some sort of backing, say wood, for our foundation, and so prevent this undesirable possibility. GLEANINGS contained an account not long ago of foundation that had a wooden backing. This sort of thing ought to be encouraged. We could, by this means, render the production of drones an impossibility.

One easily sees the immense importance of this matter. Complete control of our bees would then be possible. Some of your correspondents talk of hives that secure to them complete control of their bees. They surely do not mean it, as the bees get up and swarm, or raise drones, whenever they are so minded. This question will have to be looked at squarely, and conscientiously worked on by a number of good beekeepers, to secure tangible results. If the experiment stations would try something of this sort they would deserve more fame than they now receive.

All these discussions about burr and brace combs simply show that the hives containing such are improperly constructed. Thick top-bars are only a makeshift. Put your combs close enough so that the bees do not have to build bridges across to the next comb. Some people seem to think that a bee can reach over about $\frac{1}{2}$ inch. I can handle my frames with the same facility that a person handles a book. Formerly I needed a screwdriver to pry every frame apart. It seems to me the whole question of hive-making rests on *accurate* measurement. People think they are wonderfully accurate when they get it down to $\frac{1}{16}$ inch; but is it not probable that a bee looks at $\frac{1}{16}$ with the eye that we do a yard? My measurements of the combs are something like this: Thickness of comb, $\frac{1}{100}$ inch; space required for the body presence of two bees, $\frac{3}{100}$ inch; added together this makes just $1\frac{1}{2}$ inches. The bees are wonderful economists, and they abhor more space than this unless drone comb is intended. Finally, if you do not desire swarming (and who does?) don't raise a drone.

I will defer the account of my experiments in this line to a future period, hoping that some of your readers will test the matter fully, and report.

Devonshire, Bermuda. June 1.

[Some five years ago, when I advocated self-spacing frames, I concluded from the reports as well as from private experiments we have been making, that the ordinary $1\frac{1}{2}$ -inch spacing from center to center was too wide; and accordingly I began to advocate the $1\frac{1}{8}$ distance, particularly because it seemed to be a compromise between wide spacing and the very narrow $1\frac{1}{4}$ and $1\frac{1}{8}$. At this time I asked for reports from those who had tested the narrow, medium, and

wide spacing; and the testimony at that time gathered seemed to show that $1\frac{1}{4}$ and $1\frac{1}{8}$ would largely if not altogether prevent the rearing of drones. It also seemed to show that these narrow spacings were a little too much of a good thing. It appeared also that the $1\frac{1}{8}$ was a nice golden mean; and now that self-spacing frames of this width are so generally adopted among progressive bee-keepers it would be difficult if not impossible to get down to narrower distances.

At all events, I should like to hear from our readers who are in position to know whether the entire absence of drones will prevent swarming. I am rather of the opinion that it will not. If it does not *prevent* will it *discourage* swarming? I should like to hear from a number of our readers on these and other points brought out in Mr. Morrison's able and excellent article.—ED.]



SYRIAN BEES.

Question.—Do you keep the Holy-Land bees? and if so how do you like them? Please give us something in GLEANINGS regarding their qualities.

Answer.—The Holy-Land bee is no more and no less than the Syrian bee, which abounds about Jerusalem; hence the name, "Holy Land," as applied to it by many. I have carefully tested these bees; and for this locality I regard them as the poorest of all the bees ever brought to this country. It would look as if nearly every one who has tested them is of the same opinion; for, of late, we see no advertising of these bees, and scarcely a word said about them in any way. The two great faults which make them of little value are, first, not breeding when they should breed, and then breeding beyond measure when they ought to breed but little, which results in few laborers in the field during the honey-harvest, and countless numbers of consumers after the harvest is past, to eat up all the few gathered, consequently giving little or no profit, with a hive short of stores for winter. In all of the colonies I had during the five years I was testing them not one of them had stores enough for winter when October arrived. In a locality where there is a continuous flow of honey from spring to fall, these bees would be of more value; but, unfortunately, very few such localities exist in North America. This securing of the bees at the right time for the honey harvest is, I think, of the utmost importance; and because no certain work can be done along this line with the Syrians was the greatest objection I found to them.

Second, the workers begin to lay eggs as soon as the queen has been from the hive two or three days, whether by swarming or otherwise, so that the combs are often filled with a mul-

titude of dwarf drones, to the disadvantage of bees, combs, and owner. During my experience with them I found that fertile workers were always present with them, and ready to lay as soon as the queen was out of the hive. At times they sting fearfully; at other times they are nearly as peaceable as the Italians. When queenless they are as vicious as tigers, and often make the bravest beat a hasty retreat. However, they will not venture an attack unless the hive is disturbed, as will the black and hybrid bees; but at times it is almost impossible to manipulate the hives to do what is necessary to be done. Their good qualities were, that they stood our cold winters well, and readily entered the sections when there were sufficient bees to do so, in times of harvest.

SWARMING, NATURAL OR ARTIFICIAL—WHICH?

Question.—I live in the far North, nearly as far as bees can be kept with any profit, and wish to know which will be the most desirable with me—natural or artificial swarming.

Answer.—That depends very largely upon the circumstances and surroundings of the questioner. On one point I believe all are agreed; and that is, that a natural swarm will work with greater energy than that manifested by any swarm made by any plan of man's devising; consequently, natural swarming is preferred by most of our enterprising apiarists. If the swarm is lived on the old stand, and the partly filled sections taken from the old colony and placed on the swarm so as to throw all of the working force of the whole colony into the sections with that ambition that only natural swarming can call forth, it is doubtful whether as much honey can be secured in any other way. Yet if a person does not have bees enough to make a specialty of the business, so it will pay him to be on hand to hive and care for natural swarms, or if so situated that the bees go to the tops of tall trees to cluster, or in swarming are a nuisance to the neighbors, then it is better to make our increase by division, even if we do not secure quite as much honey. As many plans are given in the bee-books, and as every one who keeps bees should have a work on bees, I will not stop to give any plans of artificial increase here.

ROUND PIECES OF WAX AT ENTRANCE.

Question.—While passing around in my apiary the other morning I came across several round caps of wax near the entrance to one of my hives—something I never saw before. What does it denote—that the bees are uncapping honey, that queens are hatching, or what?

Answer.—So far as my observation goes, the finding of such caps signifies that drones are hatching out; for if any one will take the time to examine he will find that the drone, when about to emerge from the cell, bites the cover to the cell entirely off by a smooth cut, while the workers leave only fragments of the cap-

pings of their cell-coverings when hatching. The queen cuts off the capping to her cell the same as does the drone, except, as a rule, a little piece on one side is left which acts like the hinge to a door, the door often closing after the queen has gone out, so that it is a rare thing to see the cover to a queen-cell at the entrance to the hive. When it thus closes the bees often make it fast so the bee-keeper is many times deceived, by thinking the queen has not hatched. It often happens that, as soon as the queen has emerged from her cell, a worker goes in to partake of the royal jelly left in the cell, after which the cell-cover flies back, or is so pushed by the passing bees, when it is waxed fast, and the worker is a prisoner, which has caused many to think that the inmate of the cell was not a queen but a worker; hence they call their colony queenless, and send off for a queen, or write to the bee-papers about the strange phenomenon. These round cappings do not indicate that the bees are uncapping honey, as the cappings of honey-cells are gnawed off in little fragments, and not in the round form spoken of.



H. C. L., Tex.—From what you say, it seems very evident that your bees are starving, and, being short of stores, they necessarily had to destroy or neglect their larvæ, and, as a consequence, you found them carrying them out. The fact that it was very dry, and robbers were about, would point in that direction. If robbers should get into the hives and tear the combs any it would also cause the bees to carry the mutilated young bees out in the way you saw; but the probabilities are that they were starving. Feeding is, of course, the remedy.

J. D., Ohio.—It is not an uncommon thing, when honey granulates, for the thin and watery portion to rise to the top. This is, probably, a part of the honey that is not so well ripened as the rest. The fact that the honey behaved as you say is a good evidence of its purity. Some customers will complain of such honey, and I don't know of any thing you can do except to give them your word of honor that the honey is pure. If that does not satisfy them, tell them to have it analyzed and you will pay the bill if it is not pure.

W. M. C., Cal.—It is impossible to give a definite answer as to how much a swarm of bees weighing a given amount will bring in pounds of honey per day. There are so many conditions to be taken into account, such as the weather, the kind of bees, the strength of the swarm, the source of the honey-flow, and the

strength of it. A good colony, however, will gather from one to five pounds of honey per day from clover in a fair flow, and from one to ten pounds from basswood; and strong colonies have been known to store even as much as twenty pounds in a day. But such instances are exceptional.



THE honey season in California, we are told, is practically a failure all along the line. Eastern honey will have little if any competition from the Pacific coast.

MR. MARTIN BROCKMAN, of 308 Abigail St., Cincinnati, O., has, we are informed, been soliciting consignments of honey. Mr. Byron Walker, after he had, as he thought, taken due precaution as to his commercial standing, filled an order for him for some \$73.00 worth of honey. Mr. Brockman, acknowledging the receipt of the honey, stated that it was very satisfactory, and ordered more. Mr. Walker, again making further inquiries, decided not to make the second shipment. After writing him a number of times regarding honey already sent, and getting no response, he received notice from the commercial agencies that Mr. Brockman was irresponsible. Upon Mr. Walker's referring the matter to us we wrote the party, asking him if he had any explanation to make, telling him that, unless he could straighten this matter up, we should be constrained to make the affair public. This was May 28th, and up to this time no reply has been received, either by ourselves or by Mr. Walker.

THE SUGAR-HONEY CONTROVERSY.

THE following, in reference to the sugar-honey matter, and the questions at issue between Bro. Holtermann and Bro. Hutchinson are at hand, and will explain themselves.

□ *Friend Ernest*:—I am very grateful for your kindness and fairness in defending my honor in this matter of the sugar honey. □ I think a little explanation on my part may help Bro. Holtermann to see things in a different light, as I see from his letter in last GLEANINGS that he is taking an entirely wrong view of some things. I want to quote the passage at which he took offense; but before doing that I want to quote one that appeared *before* that one did, as it will, I think, put things in a different light. In the December *Review*, 1895, page 348, Mr. Hasty wrote as follows:

The sugar-honey law, which has been offered to two Parliaments in succession, gives itself away by its wording—evidently not so much intended for general enforcement as for a handy club to hit prominent heretics. Legislate ten years imprisonment for sneezing, and you have things so you can put whom you choose in prison, and leave whom you will at large. The act in question is so draconically worded that the most innocent bee-keeper in the land could be put in prison under it, for no greater crime than feeding sugar to his starving bees to keep them alive over winter. It is not merely selling, but producing sugar honey that is made penal; and manifestly every

one who feeds syrup early enough to have it finished and sealed produces the article.

In the March *Review* for 1896 appeared the following:

The last number makes a cheerful shout over the passage of the legislation they have been trying for so long, the anti-sugar-honey bill. It has been amended somewhat, it seems; and lack of time, or modesty, or some other reason, keeps them from giving us the text, so we can not see for ourselves just what sort of a looking "critter" it is. I venture to guess that the Solons of the government have given them enlarged penalties against real adulterators and evil-doers, and shorn their power to persecute innocent neighbors. In such a case we may all cheerfully rejoice together.

When I read this last-quoted paragraph I supposed, of course, that, "innocent neighbors" now "free from persecution," meant those who wished to feed their bees sugar to keep them from starving; for it is a fact that, as the act was worded by its originators, it would have been possible to prosecute any one who fed bees sugar for *any* purpose. The act as passed is far different from the way it was originally worded, and contains a proviso that bees may be fed sugar to be used by them as food. If Bro. Holtermann had published the act as *passed*, these misunderstandings would probably have been avoided; but the truth of the matter is, that the act, as passed, is a disappointment to those who urged its passage, and there is evidently no desire on their part to place it before the public. It gives no increased penalties; in fact, it gives nothing not before possessed by the Adulteration of Foods Act, except that sugar honey, or any substance not gathered by the bees from natural sources, is now *mentioned* in the act as an adulteration. Prosecutions under the old act could have been carried on just the same, only it would have been necessary to *prove* that sugar honey was an adulteration; now it won't, because the legislature has said that it is. I inclose a copy of the act as passed, and you can publish it or not, just as you please.

Flint, Mich.

W. Z. HUTCHINSON.

The act referred to by Mr. Hutchinson above is as follows:

An Act further to amend the Act respecting the Adulteration of Food, Drugs, and Agricultural Fertilizers.

H-B MAJESTY, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:

1. The Adulteration Act, chapter 107 of the Revised Statutes, is hereby amended by adding the following section thereto, immediately after section 21:

"21A. The feeding to bees of sugar, glucose, or any other sweet substance other than such as bees gather from natural sources, with the intent that such substance shall be used by bees in the making of honey, or the exposing of any such substance with the said intent, shall be and be deemed a willful adulteration within the meaning of this act; and no honey made by bees, in whole or in part, from any such substances, and no imitation of honey or sugar honey, so called, or other substitute for honey shall be manufactured or produced for sale, or sold or offered for sale in Canada, provided that this section shall not be interpreted or construed to prevent the giving of sugar in any form to bees, to be consumed by them as food."

OUR OWN APIARY; BASSWOOD HONEY-FLOW.

During this month we have had a number of copious rains; and while the prospects were exceedingly bright before, after each successive shower the chances for a good flow from basswood seemed wellnigh a sure thing. The honey commenced coming again about a week ago, and the flow kept increasing day by day until Monday, the 22nd, when there was an apparent decrease in the flow. It resumed again on the 24th, and is still holding on. The hives were just crowded with honey; even two-frame nuclei, such as we are using for queen-rearing, were gathering till there was not an available cell left for storage. When it

looked as if the nearly 400 colonies and nuclei, mostly the latter, were about to get ahead of the boys I turned in myself and helped until they could catch up. After the empty combs in reserve gave out, we called upon the factory hands to give us an extra lot of frames filled with foundation. They had what they considered a good stock on hand; but it became necessary to turn in a lot more on short notice. The foreman of one of the departments said to me, as I came up after more frames, "If you had only told me you were going to want so much stuff I would have been ready for you; but as it is, I have had to call in extra help." "Well," said I, "I had no idea myself we would need so much. The bees took us by surprise all around."

By Saturday night, by hard work we managed to give every colony and nucleus room enough and a little to spare. When I first went out into the apiary we were having about six swarms a day; but after we had given them more room, this number was reduced to one a day.

Please understand right here that I do not claim that giving room stops swarming: it simply discourages it—that is all; and, more than all, it prevents the bees from getting into the habit of loafing.

LOAFING BEES.

And that reminds me, that, if the bee-keeper is careless enough to let some of his colonies mope around a day or two for want of room, it is not always easy to get them to start to work again, even when plenty of room is given. Bees are like human beings. After they have had a loafing-spell for a while it is hard work for them to get down to real business again. I am convinced that it is very desirable to keep ahead of the bees—not to let a colony, if it is a possible thing, get into the loafing-habit. But a lack of room is not the only thing that encourages this tendency. Small entrances or unshaded hives, even when there is plenty of room, will cause bees to cluster out in front, and simply loaf, loaf, loaf.

HOW BEES ATTACH THEIR NATURAL-BUILT COMB; IS THERE A RIGHT AND WRONG WAY TO HANG FOUNDATION?

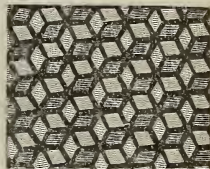
During the past year there has been more or less discussion as to which way the bees build comb naturally, that is, whether the two parallel sides of the cells are perpendicular or "slantindicular," as one friend expresses it in Rambler's story. Mr. Danzenbaker, the one who introduced the lock-corner in hives, insisted that the first-mentioned way was the manner in which the bees *always* build their combs; but I showed him, while in the yard, that bees build about as much one way as the other; in fact, it does not seem to make any particular difference to them which way the combs hang. Mr. E. B. Weed, of foundation fame, who is at

present experimenting on another invention, has made the observation that the building of combs is dependent largely upon the position of the support. Said he, "The parallel sides of the cells are always drawn out at right angles to the support. If said support is perpendicular, then the parallel sides will hang diagonal. If the support is horizontal, as it is in the majority of cases, then the comb will generally be built with the two parallel sides perpendicular."

Now, you may wonder what practical importance attaches to all this. Bee-keepers have had more or less to say as to which is the proper way to hang foundation in frames or sections. From the observations which we have made, and from the testimony which has come in, I am decidedly of the opinion that it makes no difference. The bees build the foundation just as readily one way as the other. In order that the reader may understand just what is meant by cells with parallel sides perpendicular, and cells the other way, No. 1 shows the first mentioned, and No. 2 the second.



NO. 1.



NO. 2.

Now, perhaps you may raise the question, using all foundation as we do, how we would have a chance to know or see how bees build combs naturally. I am ashamed to confess it, but the bees got ahead of us somewhat in a few cases, and built combs naturally after their own sweet wills, from enamel cloths, from cover-boards, and super-tops, and sometimes from the side of the hive. Each piece of naturally built comb was carefully inspected, with the results as above indicated.

SMALL STARTERS VS. FULL SHEETS IN SECTIONS.

A fact that is pretty well recognized among comb-honey producers may perhaps be touched upon here by way of confirmation. When we put up supers containing sections for general stock, only small starters are used, for the reason that full sheets would not ship. Well, during the last few days during the pinch we had to use something that was right ready, and accordingly a number of these supers were used; but as soon as our employees in the factory could get at it they fixed up supers containing full sheets. It was evident that the bees accepted the latter much more readily; and it was evident, also, that partly drawn-out sections shaved down *a la* Taylor were much more readily accepted yet. B. Taylor's idea of using natural comb shaved down by means of a comb-leveler is all right.

FIXED FRAMES.

We have now in the apiary three or four kinds of fixed frames—among them furniture spacing-nails. After having tried them all I fall more and more in love with the Hoffman frames. When they are handled the most is during hot weather, and then they separate very easily—at least, in our locality. In fact, I can handle them and have done so all day without even a screwdriver or pry of any sort, and many of the frames have been in use for four or five years, and in three different localities around about Medina. The Hoffman frames have faults, like every other good thing; but among self-spacing frames I believe *so far* they have the fewest.

BURR-COMBS.

I beg pardon for referring to this stale old subject; but in passing I simply wish to state that this year, like all the other four or five years since we have tested the Hoffman frame and thick-top bars, proves that burr-combs are and can be practically done away with. There are a very few brace-combs; but in comparing the modern thick-top frames with the old-style $\frac{3}{8} \times \frac{3}{8}$ top-bars—well, I can not imagine how any one can think it preferable to use them. To go back to a burr-comb frame in our case would be like going back to primitive methods, almost as bad as discarding the extractor and comb foundation.

OUR BASSWOOD YARD.

So far only a few colonies are at this place. This morning, June 25, I called at the yard, and found the bees crowding every thing full, just the same as at the home yard, only more so. I had been down and given them extra supers four or five days before. I then strolled through the nearly 4000 basswood-trees, now something over 23 years old, to see how they were budding out. Owing to the swampy nature of the ground, the trees had not blossomed nearly as well as at the home yard; but those that were in full blossom fairly glistened with honey. The few bees at this yard were unable to take care of the flow; so we have arranged to take down quite an instalment of bees from our home yard, right away; for certainly we can not afford to let this sweetness go to waste.

A SWARM IN A DECOY HIVE.

I did not have at the basswood yard any decoy hives specially fixed for the purpose of catching runaway swarms; but, notwithstanding, two or three hives were left containing empty combs, and the covers a little misplaced at the top. In one of these I noticed that bees were flying in and out just as I called at the yard. At first I thought they acted like robbers, though it seemed strange that bees would try to steal right in the height of a basswood flow when the blossoms were fairly glistening with honey. Investigation showed that there

were a lot of black bees, and then it popped into my head that this was a runaway swarm from the woods, which, having been allured by the hum of our bees, had taken up their abode in one of our empty hives. I quickly set the hive to rights, opened the lower entrance, and made the bees find it after putting the cover down tight, for it was through the top of the hive that they obtained entrance.

HOW FAR BEES WILL FLY ORDINARILY TO BASSWOOD.

As I said, I strolled not only through the basswood orchard, but *around* it. Our home yard is just a little west of south. Walking along the south side of the orchard I looked carefully through the air, but could not see a single bee going or coming; and although the home bees were only $1\frac{1}{2}$ miles away in a bee-line, it was apparent that they did not know of or care to bother with this mellifluous sweetness that was going to waste in our basswood orchard, or would go to waste unless we put bees there, as we contemplate doing to-night. You will remember that, two years ago, when we were having quite a flow from basswood, not a single bee from our home yard visited this apiary; but there was a small basswood grove half a mile nearer, and in the same direction. It would seem, then, that, for basswood, bees seldom go more than a mile, providing, of course, there is plenty within this range. I imagine that, if we were to cut down every basswood-tree except those in our basswood yard, our home yard bees would soon find said orchard.

MR. YORK, after indorsing the plan advocated in these columns, of making the Bee-keepers' Union distinctly *national*, and a deliberative body having annual meetings, makes a suggestion which I consider a good one. Here it is:

It seems to us it would be a good thing to have a vote taken by the Union *before* the next meeting of the North American, as the result might help in the decision of some things that will likely come up then. Whether the amalgamation project carries or is defeated, it would be well to know the feeling of the Union members on the matter in advance of the North American meeting, to be held in a few months.

SWEET CLOVER FOR 1896.

ALTHOUGH sweet clover has, in the last few years, been spreading enormously along the highways and railroad-cuts, it seems to be making unusual spread and growth this year. The majority of people consider it as a noxious weed, notwithstanding it makes a fine hay for stock, and that it seldom if ever grows on cultivated lands. Its vigorous growth and rapid spread over the country give us hope that it will largely take the place of white clover that seems to have run out for the last four or five years. This year sweet clover follows right on after basswood. Perhaps in many localities it will enable the bees to complete some otherwise unfinished sections.

OUR HOMES.

And he said unto Jesus, Lord, Remember me when thou comest into thy kingdom.—LUKE 23:42.

May the Holy Spirit direct and guide me, and give me grace and wisdom while I try to unfold the thought that has been in my mind for some days past. I have been assured by many kind friends during these years past that I have a peculiar faculty for making myself understood, especially on some theme where I am greatly interested, and I hope and believe the thought that is before me now interests me *more* than all things else; in fact, I hope it is the great thought and theme of my *life*. Our text gives a hint of it. Let me recall the circumstances:

Two thieves, malefactors or *murderers* they may have been, were being punished for their crimes. In olden times, one manner of punishment in some countries was to nail the criminal fast to a cross of wood. The nails or spikes were driven through his hands and feet. The cross was then set in its place, and he was left there to die slowly by the most excruciating torture. We are told that sometimes the victims remained alive on the cross two or three days. We have not time now to inquire why in that benighted age they thought *torture* a necessary part of legal punishment. At the same time, Jesus was condemned to die, and he was to be crucified with the malefactors. In fact, the Old-Testament prophecy tells us he was to be classed with malefactors, as we read in Mark 15:23, where the writer refers to Isaiah 53:12, where it says, "He was numbered with the transgressors." At that time, as at present, it was customary for people to go long distances to see a man put to death. A few days ago I saw in one of the papers a notice that somewhere in the South, where a man was to be publicly executed, people came from so many miles that the crowd went away up into the thousands. This was the case at the crucifixion; and the sad part of that awful scene—at least the sad part of it to me—is that so few comprehended or cared to comprehend what the offense was that had been committed. You know how poor Pilate stumbled and bungled, and finally in a weak evasive way sanctioned putting the Savior to death. In order that it might be understood, and give the whole transaction a semblance of fairness, it was customary to nail a lettered board on the cross, right over the head of the criminal, telling for what offense he was thus made to suffer. We do not know what was written over the thieves; but Pilate insisted on giving the reason for putting Jesus to death. The only reason he could get from the high-priest was that Jesus had called himself a king, and they made pretense he was to be feared as a rival of Cæsar. John tells us the writing Pilate put on the board was, "Jesus of Nazareth, the king of the Jews." The high-priest objected to this, and wanted Pilate to put it that Jesus *said* he was king, etc. For once in the world, however, even Pilate was stubborn. He replies, "What I have written I have written," and refuses to correct it. I do not know how many present knew of Jesus' life and lifework. They evidently knew something of it, for we gather this from the remarks they made. And, by the way, it seems to have been a custom that, while the culprit was suffering the terrible tortures of the cross, to rail on him, and make him the victim of cruel jokes and taunts. While helpless and suffering they seemed to think it a fit and proper thing to add to his anguish by taunting him with cruel jests and jibes. They brought up what he said

about building the temple again in three days, and then threw it up to him, helpless as he was—at least, so far as *they* could see. They said, "Save thyself, and come down from the cross." And even the chief priests themselves mocking him said, "He saved others, himself he can not save." In their hopeless ignorance and terrible depravity of heart, *perhaps* they were honest in this.

And now comes the great lesson that I feel so helpless to teach. The whole wide world, almost, *even now*, are unwilling to accept the thought that there can be a human being, or any being, if you choose, who has *power*, and yet will not use it for self or for selfish purposes. Mankind the world over—at least unconverted humanity—seem loth to believe that there is anybody who loves his neighbor to such an extent that he may forget self, and forget to be selfish. They said to the poor dying Savior, "He trusted in God; let him deliver him now if he will have him." They even *challenged* the great Creator of the universe to change his purpose and plans, that they might believe. We know, however, that it would have made no difference; for when he did come down from the cross they did not believe, but only hated him the more. Let us hold on just a little with this scene before us.

I have written to you one or more times in regard to the gambling mania—the craze that people have to get money or property without earning it. A great lot of people work equally hard for some prize. One gets all of it—the rest get nothing at all; and the one who has it all is supposed to be the happy one. You may tell me that even *Christians* do this same thing. In sadness and sorrow I have to admit that they do; but it is not *because* of their Christianity. It is rather because of the feebleness of their faith and the poorness of their understanding of the Christlike which every Christian ought to have.

A young man in our employ, I was told, was gambling. He and other boys would get together Saturday night after they had received their pay; and before the party broke up, one of the boys had the entire earnings of the crowd for the week. This young man confessed to me that such was the case. I said to him, "Why, John, is it possible that *you* can willingly take the money your comrades have earned, just because the handling of some little pieces of pasteboard makes out that it is *your* money instead of theirs? Can you sleep nights with the money that they have earned in your pockets? in fact, is it possible that you can be so unmanly and so selfish as to *consent* to take and to *keep* their honest earnings?"

I thought I could shame him out of it; but I had to give up. He said he did not see things just as I did, and in a kind of sheepish way tried to defend himself. He soon left my employ, and I do not know where he is now.

Some time ago I was persuaded to let Huber ride his wheel in a juvenile contest. I stipulated, however, that he should receive no prizes for his skill. He thought it was a little hard; but finally, as I explained the matter, he agreed to it. You may think me a queer sort of father when I tell you I felt almost *sorry* to hear that he had won *both* prizes—one for the highest speed, and one as the slowest rider. I think he was awarded a suit of clothes; and great was the astonishment when he refused to take them. One of the prizes, however, was only a bag of doughnuts; and by my permission he accepted these; but I stipulated even then that he should not eat them (not because of conscientious scruples, however, but because I feared they would be indigestible).

Now, I fear a good many friends think me singular and cranky. Dear brothers and sisters, I have been through some sad experiences in this line. In my early business life, when it was so fashionable to give prizes, I advertised a gift to every customer who expended 25 cts. or more at our store, and a silver watch was one of the prizes. One day a genteel-looking man asked me to put a glass in his watch. As I received the pay I pushed a box of envelopes toward him and asked him to take one. The stranger drew the silver watch. He did not comprehend the matter. When I explained it, and pushed the watch toward him, he refused to take it. I tried to make him understand that it was honestly his. One of the street boys who stood watching comprehended very easily, and said, "Sir, if you do not want the watch, I wish you would give me your chance. I'll take it mighty quick."

The stranger replied, "Why. you can have it, certainly, so far as I am concerned. I paid only the usual price for having the glass put in my watch, and I believe it is a good one, and, so far as I can see, this is all I have to do with the whole transaction."

A third party who stood by replied:

"My dear sir, since you have given your chance away, and that boy has the watch, I do not see but you are a party to the gambling business, as you call it, just as much as if you had received the watch and put it into your own pocket."

I can remember even yet the look of dismay and sorrow that came to the good man's face. He said something like this:

"My friends, I am a minister of the gospel. I have never before set foot inside of any kind of gambling-place that I know of. I supposed this was a watchmaker's store, and came in here innocently. I admit that I have been led into taking a chance in a lottery. Perhaps that would be a better word for it. I am sorry I ever came in here; but I certainly did not intend to do any wrong."

At that time I was not a church-member—far from it. I had no faith in any thing unless it was a kind of faith in a devout and praying mother; and through her I had a sort of faith in the religion she professed and lived out. But this minister's words gave me a new glimpse of this whole matter of lotteries, gifts, and things of that sort. I destroyed my envelopes, put away my prizes, and from that time forward I have been content to secure business through the ordinary channels, without the stimulus of something very valuable to the lucky one, and nothing to the others.

Now, what has this to do with this scene of the crucifixion? It has a bearing upon self and selfishness in the human heart. People are astonished even now to see a man refuse to make use of an opportunity for saving himself, or for getting gain when it comes before him, if he can get the thing *legally*. The older readers of GLEANINGS will remember my telling about receiving a shipment of sugar. The railroad company had made a mistake, and did not charge me enough for the freight. I showed it to the agent at our station, and he said:

"Mr. Root, just let the matter drop. If they discover it, of course we will correct it. But take my advice, and let this matter balance up some of the overcharges you have paid in times past."

I told him I could not let it pass that way. On my direction he sent a tracer to correct the charges. In a few days the reply came that the charges were all right. But I saw by a peculiar smile he gave me that he had manipulated things so they would not understand I wanted to pay them some money *back*. The

whole matter was so unusual and improbable, that a customer should complain because he had not paid *enough* money, that no one thought of investigating on that other line. I tried again to have the matter corrected, and was finally told that, if I pushed things any further, the clerk who made the blunder would lose his situation—that he was a good man, and had simply made a mistake, and that the only right and Christianlike thing to do was to keep the money right in my pocket, and *keep still*. Friends and foes united in calling A. I. Root a queer sort of crank because he was determined to pay a railroad company *more* money than they had already taken in a little deal. Now, this looks as if I were puffing myself again. Some of you will know that this is not what I am trying to get at. It happened a good many years ago, when I was a bright young Christian. May be I am not as honest now; but the illustration is the very best one that occurs to my mind. The same class of people are around us now that were present at the crucifixion. They laugh and make sport of one who is so cranky that he refuses to take a prize he has drawn in a lottery; and they look in astonishment at a man who refuses to take a bribe—call it a present if you choose—when it is offered to him. A great part of the world seem to be settling down to the conviction that, practically speaking, there are *no* honest men. Sometimes they admit there are a few exceptions. But if this scene were enacted over again that took place about 1867 years ago, I am afraid the verdict would be very much now as it was then. People would say, "Do you mean to tell me that the man who hangs there suffering such excruciating agonies has the power to come down and grind his enemies to powder if he choose to use it? Not much. If he *could* save himself, he would do it mighty quick." And I could imagine the whole crowd of faithless ones jeering and making sport of one poor solitary person who should attempt to defend the suffering Savior. The two thieves, even amid their sufferings, we are told, took part in this talk during that awful scene. Mark says, "And they that were crucified with him reviled him." Matthew says, in describing the same event, "The thieves also, which were crucified with him, cast the same in his teeth;" and this they did, even in their dying agony. It only illustrates how an evil spirit, when it has entered into the heart of a man, may cling to him and urge him to curse and blaspheme, even with the very last breath he draws.

But now we come to a brighter feature—in fact, to the only *hopeful* incident during the whole sad transaction. One of the culprits said, "If thou be the Christ, save thyself and us." I do not think this poor culprit had any comprehension that the man whom they called king of the Jews was or could possibly be the Christ, for it was so exceedingly improbable—at least from *his* point of view—that Christ, the Son of God, should ever consent to undergo such torture. But his companion, it seems, was, even in his anguish, groping blindly toward a dim sort of faith. He said to his companion, "Dost thou not fear God, seeing thou art in the same condemnation?" And then he adds four little words that indicate confession and at least some sort of penitence. He says, "And we indeed justly." He has come to the point where he is fair enough to admit that, so far as they two are concerned, there was no injustice about it. And he adds, "For we receive the due reward of our deeds." At this point we can imagine he was looking back over his past life and that of his comrade, for they two had probably been together. He recalls scene by scene some of the terrible crimes, very

likely, as I have said, including *murder*, and admits that their suffering and anguish are only the due reward of sin. Confession and penitence, dear brother and sister, are the first *sure groundwork* of a better life.

We do not know how much the crowd knew in regard to the life of Jesus. The chief priests certainly knew he was innocent. Those who had had a hand in getting up a mock trial knew how shamefully preposterous the whole affair was, from beginning to end. The thousands who had come together from curiosity may have known a little in regard to this. Most of them probably did not care. But this penitent thief said to his companion, "But this man hath done nothing amiss." I can imagine that the poor soul at this point was getting such a glimpse of his own sins that he had almost forgotten his physical anguish. They say drowning men catch at straws. This man was certainly like a drowning man. His case was *hopeless*, and he was *helpless*. If he had any sort of faith in God, he dared not come to him at such a time after such a record. He had broken almost all, and *perhaps* all, of God's commands. There was no chance and no hope. He must hang there, suffering one day, may be two days, and may be three, and then be ushered into the presence of the mighty One whose every command he had broken. He had heard of this man Jesus. The Jews had been saying that he called himself the Son of God. He had heard the few words uttered by this strange being who was for the time classed with the transgressors. He had heard him say, "Father, forgive them, they know not what they do." He had caught glimpses of the human part of our Savior as well as of the divine. Perhaps he begins to have a weak kind of faith in that *kingdom*, so different and so strange—so unlike *earthly* kingdoms; and in his poor weak faith he catches at the last frail straw, as it were. He throws himself into the care and keeping of that stranger. How modestly, and with what trembling faith, he makes his request—"Lord, remember me when thou comest into thy kingdom." I can imagine, dear reader, that, even while he was speaking, a strange peace began to come into his heart, such as he had never known in all his life before, even under the terrible existing circumstances. Human words can not express it. Before the gracious Savior had even time to reply, I can imagine the guilty stains began to be washed away, leaving the poor sin and crime stained soul washed and clean and pure. Christ Jesus came from heaven to earth to save sinners. His lot was cast among sinners. He spent his life pleading with them. Some of the skeptics have said that he was a *disappointed* man. Well might he have been disappointed. The same skeptic, however, had forgotten that the old prophets tell us he was to be "a man of sorrows, and acquainted with grief"—grief because even he, the Son of God, so utterly failed in teaching men how much better are the incorruptible and eternal riches of a clean heart than all the treasures that this earth has to offer. Well, it seems the great God above, in his eternal plan, had arranged that the poor disappointed Son should make one more conquest over evil, and that even at the last moment. He grasped the situation, as it were, and replied to the poor penitent sinner, "Verily I say unto thee, To-day shalt thou be with me in paradise." Many who read these words can look back at a time in their lives when the Savior spoke peace and pardon to their souls; and I am sure we shall all remember that period to the last day of our lives. There is nothing like it in the whole line of experience in a human life. My impression

is, we *should* think of that period in our lives oftener. We should pray more earnestly to get back to that very startingpoint. At that time, dear brother or sister, the things that this world had to offer you faded into utter insignificance compared with the things pertaining to eternal life. "Why do ye spend money for that which is not bread, and labor for that which satisfieth not?"

Let us take another glimpse. Suppose we could find men for our public offices—suppose we could find men to occupy different positions in the management of the affairs of the great cities—men who had gotten such glimpses of the Christlike life that the bribes and tempting offers would have no effect on them. What would be the effect upon our nation? What a relief it would be to those who are laboring hard, and trying to be honest—to the poor oppressed farmers who are paying the taxes—if they knew that the men who take charge of all this money and property were men who are devoted soul and body to the bettering of mankind—that they were men who feel that they were sent here on earth to help sinners out of darkness and into life, and who feel that every thought and act in life are under the careful scrutiny of the eye of the Almighty, and who would conduct themselves accordingly!

And finally, dear reader, are you not ready to say as did this poor sinner on the cross, "Lord, remember me when thou comest into thy kingdom?" If you have been disappointed, and if you have been discouraged, oh let me, I beg of you, persuade you to choose Christ Jesus as *your* advocate before the throne of God, and trust your life and affairs in *his* care and keeping; and a new life, bright and joyous, full of hope and peace—a life that shall *never* end—shall open up before you, and continue so long as *you* continue faithful on your part.



DAN WHITE'S SYSTEM OF GROWING STRAWBERRIES.

If you will turn to page 782, Oct. 15, 1895, you will find a description and diagram of the above. All along during strawberry time I had been thinking of that model plantation of Gandies; but I could not get time to go over and take a look at it until our own picking began to slacken up. Just about this time the following came to hand:

I am now picking my Gandy berries. I send them to Cleveland, and they net me 12½ cts per quart. My raspberry-field is a grand sight, and promises a big yield. Bees are working nicely on clover, and we have extra prospects for a good season.

New London, O., June 12.

DAN WHITE.

I hastily made arrangements with the boys to take care of what strawberries there would be next day, Saturday, and in due time I fetched up at Mr. White's pleasant home. He was off to town with berries; but his hired man showed me around, and gave me all the pointers. The patch had just been pretty well picked, so I did not see many of the finest berries; but it was kept in apple-pie order, and it had already given a very satisfactory yield at that date, June 13. This was about two weeks ahead of the time the Gandies usually ripen. But almost every thing is that much in advance this present season. In one place there was a row or two that showed something that was

not exactly blight; but the foliage looked as though it was burned by the sun. The hired man explained that this was where Mr. White put on heavy doses of nitrate of soda. I inquired if he tried light doses as well as heavy ones, and was told he did; but, as with my own experiments, the nitrate had done no good anywhere in any sort of dose, and in heavy doses it had done harm without question.

In due time Mr. White returned, and we had a big time comparing notes, etc. He has a great deal more ground in raspberries than in strawberries. In fact, I believe there are now five or six acres. Some of the earliest were just beginning to get ripe. The crop promises to be immense. We looked over carefully a single row of Gaults, and compared them with the others. There is not as much fruit set for the first crop as on several other kinds; but he thinks it may have been somewhat owing to the fact that they were crowded for young plants.

After dinner he very kindly took his horse and buggy, and we made a flying trip to friend Gault's home. Here we saw Gault raspberries loaded with fruit, by the acre. As Mr. G. was not at home we looked over the grounds as well as we could by ourselves. As I was nearly forty miles from home, we could not take very much time. The Gault raspberry certainly promises a big crop, even from the first fruiting, to say nothing of the crop from the new wood, that is to continue till frost. It looks now, however, as if there were going to be one defect in the Gaults. A good many of the berries are imperfect—some of them gnarly. But of course there were here and there extra-large berries—a sort of double berry or monstrosity. These, of course, are all right; but it breaks up the uniformity that we see in size and shape in some of our very best berries. The Gaults on our own home plantation are this year going to give a large crop; but there is more or less of the same trouble mentioned above. When we get them into market, however, we can tell better about it.

On the way home we took a look through the poultry establishment of Charles McClave, of New London. This man has deservedly won a wide reputation for fine exhibition fowls. We saw every thing in the way of poultry, ducks, and geese, and even some beautiful imported swans, costing, I am told, away up into the hundreds.

Even though I began to urge that it was getting toward 4 o'clock, and that I wanted to make Medina before dark, friend W. said I must take just ten minutes to see another everbearing raspberry growing in a garden in New London. The owner was away, but we obtained permission to look at the berries. This berry has a yellow or orange color when ripe, and most deliciously flavored we found it. It bears fruit both on the old and new canes, and propagates by the tips, and also sends up plants as do the red raspberries. The amount of fruit already set, and the blossoms for more, promise a tremendous yield. My impression is, however, they will not be as large as the Cuthbert and some of our red raspberries. The owner obtained his plants from away up somewhere in the northern part of Michigan. A relative of his who was visiting him was asked to look at his Gault raspberries. The relative then replied that he himself was growing everbearing raspberries by the acre, and promised to send some plants. It looks to me very much like some sort of raspberries that I saw in the woods in the northern part of Michigan some years ago. I found the fruit quite late in the fall, and was assured it kept bearing until frost.

After I came home I wrote a card asking the address of the owner of this everbearing yellow raspberry. Here is the reply:

O. E. Hemenway is the man who has the raspberries you ask about. The Gandies are giving 72 qts. each morning, with prospects of keeping it up the week out. DAN WHITE.

New London, O., June 16.

A VISIT TO THE OHIO AGRICULTURAL EXPERIMENT STATION.

After writing what I have about the Great American strawberry I felt anxious to visit our station and ask friend Green what he knew about it. The result was, that, on the afternoon of Thursday, June 18, I started off on my wheel. As there was a brisk north wind blowing against my back, I reached Wooster easily before dark. Finding Prof. Green absent I was most graciously received and shown over the grounds by our good friend Prof. Thorn. At this time of the year their greenhouses are almost entirely occupied in growing tomatoes. The plants were in the sub-irrigated benches with not more than 4 inches of dirt to grow in; and it seemed to me they stood almost as close as we plant potatoes under glass—that is, a foot from center to center. Perhaps the tomato-plants, however, were a foot and a half apart. Each plant was trained so it would make one single vine, and this ran clear up to the glass, sometimes four or five feet. All side shoots were clipped off; but the beautiful large tomatoes, some of them ripe and ready to gather, were strung along these single-vine plants in a way that would almost call forth exclamations of wonder and surprise from any gardener or anybody else who loves to see beautiful tomatoes growing. It seemed to me almost like enchantment to see such a wonderful amount of fruit in such a shallow bed of soil; and the whole range of greenhouses contained a perfect stand, and was a perfect success from beginning to end.

Perhaps I should explain that I got my glimpse of this wonderful sight in the way of gardening under glass about 5 o'clock in the morning. I chanced to be on hand just as the janitor was opening up and sweeping out. After breakfast, Prof. Thorn took me, together with Mrs. Thorn, in his buggy, and we had a most delightful drive. First we went through the great barn just constructed for the convenience of that wonderful experiment farm of toward a thousand acres. The barn not only contains ample storage room for all the crops they will be likely to raise, but it contains all the latest improved machinery for moving the product quickly to any part of the barn where the crop is to be stored. Besides this, right inside of the same barn is a thrashing-machine, ensilage-cutter, and, in short, all the improved agricultural machinery needed to take care of the crops in the best manner. A little steam-engine in the dairy-room, only just separated from the barn, furnishes power, which is transmitted by an endless rope belt.

I can hardly take space here to tell you about thy various forage crops and experiments with the fertilizers. One fact, however, was brought out very sharply and clearly; viz.: A great many valuable fertilizers like nitrate of soda, potash, and other chemicals, may not produce any effect whatever when used *alone*; but when supplemented by other needful fertilizers the result is very decided and clear. Dan White and myself saw no effect from the use of nitrate of soda when used by itself, and the same result we see here. When combined, however, with phosphoric acid and potash, it produces positive results on corn, wheat, potatoes, etc., without question; but whether the benefit is

sufficient to pay for these expensive fertilizers depends entirely on what the crops will bring in the market. The experiments at our Ohio station have shown most clearly, again and again, that the farmer can not afford to buy fertilizers at present prices for either corn, wheat, or potatoes, unless these crops bring better prices than they do *now*. If you are going to raise potatoes for seed, and expect to get a dollar a bushel or more, you may use fertilizers at a very good profit, and the same with wheat or corn. If you are a market-gardener, and sell your corn green at so much a dozen ears, it is also quite likely to give back the money you have paid for fertilizers.

A great many curious and unexpected results are brought out by these experiments. For instance, the amount of rainfall may change the whole matter of using fertilizers from profit to loss or *vice versa*. Again, where clover and timothy are put in with the grain, the fertilizer may, under some circumstances, stimulate the clover and timothy to such an extent as to choke the grain and cut off the crop. Again, the chemicals may be used with no profit to the crop to which they are applied. But the increased growth of the crop on the ground the year after may be enough to pay for the fertilizer.

At one point I saw a plot of oats showing such beautiful dark green, and such luxuriant growth, that I was just ready to ask the question, "What fertilizer produced such a wonderful result on this little plot?" Friends Thorn and Hickman both laughed as they told me that the piece of ground last year gave a large crop of cow peas; and even after the crop was taken off entirely, the nitrogen it gathered and stored up in the soil produced the wonderful result right before them. This gave us a bright glimpse of the future that lies before us in the line of clovers, beans, peas, etc.

Crimson clover so far has been almost a failure on the experiment farm; but I believe they are going to succeed with it even yet. With American-grown seed put in among early corn, say during the last of July or first of August, I think they will get a stand that will stay through the winter.

In speaking of Terry's bad luck with chemicals Prof. Thorn laughingly remarked something like this:

"Mr. Root, I can make chemicals give a good result right on that very same farm of T. B. Terry's."

"Why, how will you do it?"

"Well, I would just *stop raising clover*—that's all."

Then we had a big laugh. The point is, Terry gets his fertilizers in clover instead of buying them in bags; and the clover produces the same result so exactly that chemicals, when applied to his clover-fertilized soil produce no result whatever.

Just one more point: In looking over the different plats, one plat showed a very good stand of wheat, notwithstanding the white board in front of it bore the inscription, "Nothing." When I said, "How is this?" Prof. Green explained that the strip of wheat was grown on ground that produced potatoes the year before. The adjoining strips of wheat marked "Nothing," that were so poor, did not have any potatoes to go before them. "But," suggested I, "you put some chemicals on the potatoes did you not?"

"Nothing at all; and this experiment was made expressly to show that a better crop of wheat is secured where potatoes preceded the wheat than where no potatoes were grown at all."

Now, this, you see, is another of Terry's strong holds—having wheat follow potatoes invariably.

By this time we had reached the fruit and berry plantation away up on the summit of one of the highest hills in the State of Ohio. Prof. Thorn told me this point was fully 200 feet above Killbuck River where it runs through the town of Wooster. As we approached the summit I was obliged to laugh to see how the land was cut and gullied and washed right through our experiment farm. I did not mean to laugh at anybody's misfortunes, mind you; but it occurred to me that our professors would be obliged now to solve one of the most important problems before our State and many others a little further south—preventing the wash and cutting-down of some of our most fertile soils as soon as the land is plowed and worked up fine and loose. You may suggest underdrains; but these are not sufficient. There must be some special management; and, if I am correct, our professors have not decided yet just what course they will take. I am sure they will master the difficulty in time, however. This sandy loam on the summit of this high ground here seems to be the ideal soil for all kinds of fruit, especially raspberries. I never before in my life saw such tremendous yields exceedingly large fine berries are due much to of massive fruit as I saw here. Doubtless the new and improved varieties. I will not attempt to name all of them, because it will soon be forthcoming in their report. Prof. Green gave me on a slip of paper the name of one of the best of the black-caps—the Eureka. Among the novelties in the way of strange and new fruits there are a good many that amount to little or nothing. There are, however, a few that promise to pay for all the time and trouble expended in getting them. Prominent among them I want to speak of the Success Juneberry. These are certainly as luscious as huckleberries. They are borne in great profusion, and the bushes may be grown as easily as currants. This has been true on our grounds as well as at the Experiment Station.

I wish I had space to tell you all about the new varieties of strawberries. They had there on the grounds almost every thing that has been mentioned in print or in any catalog; and while a great many of the new ones are grand berries, there are only a very few, comparatively, that Prof. Green thought sufficiently better than the well-known ones to entitle them to a place. By the way, he tells me the Great American I have mentioned elsewhere is probably not, from my description, the genuine Great American. He says there is very much confusion indeed by having several varieties of the same name, and also several names for the same variety, or something so near it no one can tell the difference. He suggested that the big berry I got from my neighbor might have been the Sharpless, after all. Its lateness may be accounted for by the difference in locality, even though less than a quarter of a mile away; and then he pointed out to me the fact that the lower end of their trial strawberry-grounds was almost a week later in ripening, although the rows were only a few rods long. He could give no reason for this; therefore, before you invest in Great American, you had better wait for my report another season.

Among the valuable new sorts he gives the Brandywine great prominence, as, I believe, does almost everybody who has tried it. They were picking and selling baskets of great berries while I was there, for only \$2.00 a bushel. They would have brought almost twice that on the Medina market. Perhaps the Wm. Belt

should also be put beside the Brandywine as an extra-good late berry. The above two are perfect-blossoming. He also recommends the Bisel and a berry labeled Jerry Rusk; and he thought it worth while for me to test the berry called Carrie. This is a good medium berry. The three former are all late.

I want to put in a good word right here for the Marshall strawberry. A large bed of Marshalls that commenced giving a crop for early market in April (under glass) has given more or less berries right along every day since, and we are getting some extra-fine specimens from the same bed to-day, June 25.

Among blackberries he advised me to try the Early King. They have also an unnamed strawberry as early as Michel's Early, perfect blossoms, but it bears fully twice as many berries. This, certainly, will be an acquisition, for all our extra-early berries so far have been very poor yielders.



"THE BEST STRAWBERRY IN THE WORLD."

In our issue for June 15 we were inclined to give the Jessie the palm for being the best strawberry if we could have only one of all that are before the world now. Later on we were inclined to change our decision and give our preference to the Parker Earle. Well, just after our last issue had gone to press, I think it was June 12, I happened to remark to the wife of a neighbor that our nice strawberries were all gone. I was just on my way over to the house to take my before-dinner nap. After waking up and rubbing my eyes, the first thing that met my gaze was a heaping quart box of strawberries—the largest berries—that is, a whole quart of them—that I perhaps ever saw before in my life. Mrs. Root informed me that they were sent over by Mr. Horn. She said the boy called them "Great something," she could not exactly remember what it was.

"Great American?" said I, as I picked up one of the great awkward chunks of delicious fruit and sampled it.

"Oh, yes! that is it—Great American."

It was not long before I was over to my neighbor's, on my wheel. Now, his strawberry-patch is not over a hundred rods from my own down on the creek bottom; and yet he has beaten me all to pieces—at least on *late* strawberries. Why, if somebody had exhibited that box of berries, and had offered me a hundred plants of the same for a five-dollar bill, I should have handed over the bill "quicker'n a wink." Best of all, these berries were grown on soil precisely like my own; and this yield of enormous berries was after even the Parker Earle was almost done fruiting. The bed had been neglected, and the foliage was so thick you could not see a berry until the leaves were parted. The great leaf-stems were toward a foot high or more, and the fruit was tangled in the foliage. There was such a tremendous growth of plants covering the whole surface of the ground that the heaviest storm could not soil the berries a particle. Very likely this great mass of foliage was one reason for the season being held back, as the sun could not get at them.

Now, I have heard of the Great American before. In fact, some years ago I gave it a partial test; but my plants may not have been true to name. Neighbor Horn sells his berries at the

groceries. He said the first pickings brought 6¼ cts.; then 8 and then 9. But the last which he sold for 9, he said the grocer retailed out at 12 cts. for every quart of them before the boy left the store. The fruit is shaped very much like the Sharpless. You remember when I first commenced raising the Sharpless I said the berries looked like "chunks of pudding." Well, that describes the Great American exactly. In point of flavor they are exactly like the Sharpless, as nearly as I can remember.

I had been thinking I could not eat strawberries, especially for supper. When Mrs. Root placed the heaping saucer of Great Americans close to my plate at suppertime I felt almost sure, both from looks and taste, that they would not hurt me, and they didn't. I suppose they are a very large per cent water; but when fully ripened they have a delicious pineapple flavor that is most fascinating. Our Mr. Turner, you know, has been for years at the Ohio Experiment Station, Columbus, where they test every thing in this line. Said I:

"Mr. Turner, you people, of course, tested the Great American with other strawberries? Now, will you please tell me why it has not made more of a stir in the world?"

He replied in just two words:

"Too soft;" and that tells the story exact y. If fully ripened they certainly would not stand shipping; but for home use, or for selling in the way we do, picking the berries between 4 and 6 o'clock, and selling to consumers before noon, I believe I should call them the "best berry in the world"—at least, the best *late* berry. Very likely the berry does not ordinarily produce as many quarts per acre as the Haverland, Parker Earle, Bubach, and some others; but managed in the way I found these, the yield was certainly very satisfactory; and it does not take any time *at all* to pick the fruit.

By the way, why can't this berry be profitably grown and let it cover the ground entirely, having no paths, no weeds, no management at all? Make the ground exceedingly rich; keep out every weed until the plants get complete possession, as in the new celery culture, and then just let the whole thing take care of itself. Grown in this way they do not need any mulching, and I do not believe the plant would ever be thrown out by frost; neither would a late frost injure the blossoms, for two reasons—the bloom is very late,* and the immense foliage would protect it. But I tell you, you would need to have some careful pickers. The average boy would be sure to set his foot right square on one of these immense bunches of huge berries.

Now, mind you, the Great American will never be popular as an all-purpose berry, because it is "too soft;" and during very wet seasons they might, like the Bubach, rot before ripening. But for home use, or for selling right around among your neighbors, I believe I should call it one of the best.

Before the sun went down that night I had some of our best creek-bottom ground prepared; and before another day had past, some Great Americans were taken up with a lot of soil adhering to the roots, and transferred to our rich ground. Of course, we had to take old plants, because they have not commenced to send out runners yet; but we are going to make plants this fall, and get out a plantation that will bear fruit next year—you see if we don't. Now, has any reader of GLEANINGS had a similar experience with the Great American? If so, will he please tell us whether he has plants for sale? Better still, mail me half a dozen as a sample;

* The blossoms are perfect, so no other variety is needed near them.

and I think you had better put a little advertisement in our journal; for we (that is, the readers of GLEANINGS) want the genuine Great American, such as I have described.

Next time you take a good long wheel-ride, if you can get hold of them just take a great heaping quart of Great Americans and sit down in the shade and enjoy yourself, and thank A. I. R. for having told you where to find at least one of God's most luscious gifts.

I think I shall have to own up that I am not a very good hand at raspberries, nor blackberries either; but when you come to gooseberries—this year, at least—I am a grand success. Down on the side hill, this side of the creek garden, there is a row of gooseberries 200 or 300 feet long; and every bush is not only loaded with fruit but it is actually lying down on the ground with loads of berries. Before our recent abundant rains I feared the berries were going to be rather small in size on account of the excessive quantity. I wrote to several commission houses to know what they would give for green gooseberries provided I thinned off about half of them. They replied that the market was already overstocked; but now since the rains, they are fully as large as I ever saw them, and there are bushels and bushels of them. We commenced selling them at 5 cts. a quart; but now we are letting people have them at \$1.00 a bushel provided they will come and pick them for themselves. Our Mr. Turner just gave me a hint in regard to gathering this fruit. Ask your wife to lend you her apron (if you are so unfortunate as not to have a wife, borrow an apron of some other good woman). Get a little box just the right height to sit on comfortably, and seat yourself beside the gooseberry-bush. Lift up the branches and get them over your apron. Strip off fruit, leaves, and all. When you get through, winnow out the leaves in a light breeze. If there are enough, put them through a fanning-mill. Our boy "Fred" says he thinks he can pick a peck in 15 minutes, but I think he had better say twice that time. Now, if some of the bushes were full and others not, I might think it was the variety; but that row contains almost all kinds of gooseberries that have been advertised in the catalogs, and they are loaded just the same, unless I except some of the new varieties that cost 25 or 50 cts. a plant. Some of these bear great whopping berries, but they have never been loaded down on our grounds. If you are going to put your gooseberries through a fanning-mill, and carry them home in a bag on your bicycle, you want to pick them before they are dead ripe.

Later, June 25.—I said I could not raise raspberries; but I can, after all. We have made our first picking of the Gaults. There is going to be a great lot of them, first crop; and the first picking, at least, are the largest raspberries I ever saw. I think the Gault this year will give us more berries than any other raspberry on our grounds; and that is the first crop, mind you. The buds and blossoms are already out for those tremendous clusters of the second crop.

Elæagnus longipes has given us a crop of splendid berries—perhaps I had better say cherries—this year, and I regard the plants as an acquisition. They are as large as fair-sized cherries. The stone, or seed, is a great deal smaller than that of any cherry, and they have a sprightly acid flavor that is very refreshing to me. It also makes just the nicest kind of pies, according to my notion. My half-dozen plants are fully equal to the catalog picture. They are bending with fruit just as the catalog said they would, the second year after planting.

They do not seem to have any insect-enemies. The bushes are strong rank growers, and I wonder the world has been so long ignorant of so beautiful a fruit. I must tell you, however, that there are a few people who stick up their noses and make a face at this fruit. Everybody admires the plant and the beautiful fruit, but not everybody likes its peculiar tartness. On the experiment farm they had not borne fruit yet, and it was my pleasure to express them a sample basket.

THE EARLIEST POTATO IN THE WORLD.

It is now June 17, and we have just been sampling some of our earliest potatoes. The White Bliss Triumph is certainly ahead. Burpee's Early, Six Weeks, Early Ohio, and Thoroughbred, would come next. So far as quality is concerned, while they are so immature there is not very much difference. The Thoroughbred, to bring out its best table qualities, needs to be fully ripe, and I suppose this is the case with almost any other potato. By the way, I have told you several times of the Thoroughbreds that I started in the greenhouse, afterward planted out in the cold-frame—the ones that stood three feet high until a heavy storm blew them down. Well, the vines now are beginning to look yellow, and show some signs of maturity. A few minutes ago, while looking them over I saw the ground heaving up in various spots, so I put my finger down, and without any trouble at all I picked out half a dozen potatoes averaging $\frac{3}{4}$ lb. each. This, as you know, is pretty large for table use; in fact, I believe the general market would prefer them smaller rather than larger. Three of these great fellows came from a single stalk, the produce of a single eye. It was somewhat of a question whether we could get a good yield of potatoes planted only one foot apart from center to center; but the Thoroughbred will do it, and no mistake. I fairly ached to dig up the whole patch, to see how many bushels per acre the yield was going to be; but I know by past experience we can not get a full yield unless the vines are permitted to become dry and dead. The potatoes are certainly the smoothest, fairest, and handsomest-shaped of any thing it has ever been my lot to grow. When the seed gets cheap enough with the Thoroughbred, I shall be quite willing to grow early potatoes for table use by starting them under glass. Just think of it—a big yield of large potatoes by the middle of June!

CHEMICAL FERTILIZERS; INVESTING MONEY IN THEM WITHOUT MAKING EXPERIMENTS FIRST ON A SMALL SCALE.

Mr. F. B. Chamberlain, of Penfield, O., paid us a visit yesterday; and while looking over our potatoes he told me in substance as follows: Last year he bought \$40.00 worth of a specially prepared potato fertilizer, and left alternate strips, as they do at the experiment station, with phosphate, and the other strips with nothing. At digging-time the strips with nothing applied gave 10 bushels per acre more than where he put on the high-priced fertilizer. He submitted the matter to the agent who sold it to him, and he said it was on account of the dry weather; but, mind you, the potatoes with nothing applied had to stand the dry weather also. They claimed, however, that this year this heavy application of fertilizer would make a showing clear and plain on the present crop. At this date, however, June 25, no benefit can be discovered. You may say the brand of fertilizer was a spurious one; but I think not. Friend C. can tell you what make it was, if you wish. At our experiment station they have had several cases of a like nature, where the

application of an expensive fertilizer actually *cut down* the yield. Now, I do not mean to advise that you stop using chemical manures, but I would stop buying \$40.00 worth to start with of something you have not tried. Make some tests in your garden first. When you get hold of something that does enough good to pay the cost, try it on a little larger scale next season, and so on.

June 27—just before going to press.—I have just returned from a trip on my wheel to Matthew Crawford. From my description of our big strawberry he thinks it is, without question, the Great American. Mr. Crawford agrees substantially with the decision of our experiment station in regard to strawberries. The Wm. Belt and the Brandywine stand now at least very near the head for perfect-blossoming late strawberries.

THE GAULT RASPBERRY, ONCE MORE.

If you will excuse so many conflicting reports, permit me to say that, at the present time, the Gault is ripening up fruit that in size, quality, and firmness, is equal to anything I have ever seen, and you know I have just visited Dan White, the experiment station, and Matthew Crawford. Not only is the center one of the cluster large and handsome, but there will be a dozen or more berries on the stem ripening all at once, pretty nearly all alike. The worst trouble now is, that the great weight of the immense berries brings the branch down to the ground, so that a good many got muddy from the recent rains.

THE NEW EVERBEARING YELLOW RASPBERRY.

We have just received a basket of these from friend O. E. Hemenway, New London, O. (see page 506). They are about the size of the Cuthbert, and very much in looks like the Golden Queen. They are of a beautiful orange yellow, with just enough reddish tint to make them look fascinating. They are not as sweet, however, as some of the red raspberries, and altogether too soft for shipment—at least, those sent us were; but for family use, a small patch in the garden would be not only a "thing of beauty" but a delicious dessert. If you want to know any thing more about them, or how to get the plants, etc., write to friend Hemenway.

WHITE BLISS POTATOES FOR IMMEDIATE PLANTING FOR EARLY CROP.

We have had little or no experience in growing potatoes from a crop already grown the same season; but the White Bliss is now ready for planting; and we give place to the following, at the end of a letter just received from friend Swinson:

I will sell White Bliss of the spring crop at \$3.00 per barrel. These are fully matured, and will run in size from a large hen's egg to twice the size of goose eggs. They can be planted for second crop north up to August 1, and south up to September 1, if fertilized well so as to force rapid growth.

Goldsboro, N. C., June 24.

A. L. SWINSON.

Triumph potatoes are now advertised in the Cleveland market at \$1.50 per barrel. This is the same thing as the Red Bliss, from which the White Bliss was originated. We have to-day, June 29th, White Bliss grown on our own grounds, planted about May 1st, weighing fully half a pound; and on "our experiment farm" it stands to-day the earliest potato. They are not only handsome, but of excellent quality.

HAND-WEEDERS, ETC.

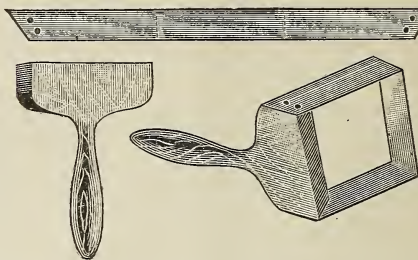
Mr. Root:—I send you by this mail a little tool that we use in the garden with most satisfactory results. Try it in beet, carrot, and turnip beds. We have them all widths, and also with handles three feet long. A man will do as much again work

with one of them as with any other tool I can buy or find advertised in any catalog.

Windham, N. Y.

O. R. COE.

In the same mail with the above was a small hand-weeder like the cut below on the right.



The figure on the left, and the upper one, show the construction. The long strip is galvanized iron folded at a sharp corner, as marked, then nailed securely into the wooden handle cut out of an inch board. We made perhaps half a dozen of these weeders; and where the metal is kept sharp on the edges with a file, it seems to answer about as well as any that cost three or four times as much. You see, they work on the principle of a scuffle-hoe, sliding under the surface without disturbing the ground very much or throwing it out of level, but killing all the weeds. Another thing, you can go close up to the plants without any danger of cutting them, for there is no sharp point to come out under the ground closer than you intended. If you like the tool, thank friend Coe.

This spring, while looking over our new counter store, my eye rested on a little implement made of iron and steel, shown in the figures below.



A TEN-CENT ALL-METAL GARDEN-WEEDER.

These implements are made and sold for pot-cleaners. By squeezing the handle, the thin steel blade is curved any degree you wish. Well, I stood and stared at the things several times, and mentally scratched my head to know why it was these things suggested something, I could not tell exactly what. After a while, however, I "caught on."

"Why, Charley, as sure as you live your pot-cleaners there will make the best garden-weeders in the world;" and we took a lot of them up to the swamp garden and tried them among onions, turnips, radishes, etc., and the boys all call them the best thing out. Where you get the plants too thick, and they have to be thinned out by hand, I tell you this machine is the thing. If the ground should be uneven, and you want to get down into a hollow, just squeeze the handle, and it makes a regular spoon, as it were. The thin keen steel blade operates like friend Coe's weeder, only it is so small you can readily carry it in your pocket, and it is so light it may be sent by mail for only 4 cents for postage. We should have gotten it before our readers earlier in the season, were it not that we had to wait some little time for the cuts.

HUMBUGS AND SWINDLES.

Mr. Root:—Is the inclosed any good? If not, can you give me any good process by which fruit that I can not sell may be put up to sell at some future